THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. 86. NEW YORK, SATURDAY, APRIL 15, 1905. No. 15.

ORIGINAL ARTICLES.

INTRACRANIAL TRAUMATIC HEMORRHAGE.

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INTRACRANIAL traumatic hemorrhages may be epidural, pial, or cortical. The deeper hemorrhages are derived from the vessels of the pia mater and from or through the cerebral cortex, and are always originally situated beneath the visceral arachnoid membrane, although if the extravasation is sufficiently large it will secondarily break through into the arachnoid cavity. This extension has no clinical or other importance, but to specialize them as subarachnoid rather than as subdural would somewhat more closely define their anatomical position. The designation pial and cortical as the subarachnoid hemorrhage is of meningeal or visceral origin, are topographically exact and pathologically distinctive.

Epidural hemorrhage may be derived from the diploic vessels, and is usually inconsiderable in amount. If it escapes from the cranial cavity and appears externally beneath the pericranium in situations noted in connection with bone fractures its importance is mainly diagnostic, and if it is retained it is difficult to occasion symptoms. It may be derived from the dural vessels, and then the extent is in proportion to their size, and in case the middle meningeal or either of its primary branches is involved the danger to life becomes imminent. The lacerations may be occasioned by a wound inflicted by a fragment of the inner table, by a rupture in the line of fracture, or by contre-coup, and may even occur without cranial lesion. The dural sinuses are a further source of large hemorrhages, probably from direct rupture of their walls, but more generally from wounds by an osseus fragment. The accumulation of coagula is less than in the meningeal variety, since the fragment which causes the injury so often closes it till disturbed by interference.

Pial hemorrhage is occasioned by rupture of the vessels of the pia mater and is primarily confined to its meshes. It is one of the results of intracranial contusion and is independent of epidural extravasation. It may appear as punctate extravasations. It more characteristically forms a thin sheet over the vertex; if it is in large quantity it breaks into the arachnoid cavity. It may occur in patches or be universal, covering the vertex upon one or both hemispheres.

Cortical hemorrhage is the direct result of a wound of the brain substance which may be superficial or may be subcortical with an access of blood to the surface by rupture of the intervening tissues. It varies in extent from a small oozing to an enormous effusion, breaking through the pia mater into the arachnoid cavity. If the hemorrhage does not reach the cerebral surface, it differs from an apoplectic effusion only in cause and attendant conditions. The epidural blood never penetrates the dura unless that membrane has been ruptured by the violence of the original injury. If no cortical laceration can be discovered, it is impossible for the hemorrhage to be of cortical origin except in those cases that admit of the following classification:

1. Traumatic apoplexy occurring simultaneously with the injury. In these cases, rare, but of great medical importance, the patient, immediately after a blow on the head, develops the symptoms of a hemorrhage of the internal parts of the brain. Usually the blow is not severe and all evidences of injury to the scalp or skull may be wanting. The symptoms are those of spontaneous apoplexy and may be quickly fatal. There may be hemiplegia, involving arm, leg, and face, with more or less recovery. Such hemiplegia is more complete than in traumatic cases, and the evidences of irritation and the symptoms of concussion are wanting. In addition unmistakable signs of general vascular degeneration are present. In a recent case a patient was struck on the head in a street brawl. He became momentarily unconscious and completely hemiplegic. Examination a few days later showed left hemiplegia, complete restoration of psychic function, no general brain symptoms, but a well-marked arteriosclerosis of the peripheral arteries, and a hypertrophied heart with a systolic murmur at the apex. The explanation of these cases consits in a pre-existing weakness, by miliary aneurisms or otherwise of the walls of the cerebral arteries, which, when subjected to a sudden rise in blood pressure, give way. It is possible that the rise in blood pressure is due to the mechanical effect of the blow. In many cases attendant circumstances leave little doubt that the psychic factors of fright and excitement were the most active causes of the blood-pressure increase and the consequent extravasation.

2. Traumatic apoplexy occurring shortly after the injury (traumatische spät Apoplexie). This condition, described by Bollinger,[1] comes on a few days or weeks after a head injury. The hemorrhage which is fatal takes place in the neighborhood of the fourth ventrical and the aqueduct of the sylvius. Bollinger maintains that the hemorrhage is preceded by local soften-

1 Virchow's Festschrift, Berlin, 1891.

ing, which in turn has been caused by unequal pressure of the cerebrospinal fluid. This latter hypothesis remains to be proved for all cases. The injury is invariably to the head. It may or may not cause unconsciousness. In any event the patient recovers and is able to return to work. A considerable proportion of cases have been in young persons. After a few days or weeks, headache begins, somnolence and coma, with paralysis of the extremities or of the cranial nerves sets in, or after the same period of freedom an apoplectic stroke may occur without any warning.

3. Apoplectiform symptoms occurring long after the injury. The symptoms in this class point to a slow increase in vascular occlusion in parts long before the seats of traumatic insults and are those of slow thrombosis. It is generally seen in cases of fracture of the skull with extensive laceration of the brain. The increase of symptoms begins after a lapse of many years. A man, reported in the *Lancet*, 1904, sustained a compound depressed fracture of the vertex by being hit with a brick in 1861. The left leg was paralyzed, but recovered in a few weeks. Ten years later the leg became weak and finally almost completely paralyzed. The arm also lost considerable power and the intellect became blunted. Frost, in the *American Journal of Insanity*, 1903, reports the case of a man who, twenty-six years after a compound fracture of the skull with extensive loss of substance, slowly developed paralytic symptoms in the limbs of the opposite side. The autopsy showed general degeneration in the cerebral arteries, but more marked on the affected side of the brain. In this region also the brain showed cavities, the results of small areas of softening.

The injury and amount of violence vary extremely. In cases of severe violence, lacerations or contusions of the brain are frequent complications, with less violence either no fracture may be present, or if one be present it is often only a fissure and may involve the internal table only.

The interval of consciousness between the stunning effects of the injury and the onset of compression from the effused blood varies when present from a few minutes to days. In a second class it is but little marked and may be easily overlooked altogether. In the third and last set of cases this interval is never present at all, owing to a very large hemorrhage-producing compression symptoms; coexisting depression of bone; coexisting injury to the brain, or drunkenness of the patient.

Hemiplegia, though well marked in a large proportion of cases, must not be looked upon as essential. It may be ill marked or replaced by some other condition of the limbs and we find:

(*a*) Hemiplegia present and well marked. The leg or arm, and usually both, when taken up and let go, drop like those of a corpse. The hemiplegia is occasionally on the same side as that injured, the extravasation taking place on the side opposite that struck.

(*b*) Hemiplegia present but little marked. In these cases, which are not uncommon, the extravasation may be overlooked. They fall into at least two divisions. In one the hemiplegia is little marked throughout, owing to some power of accommodation on the part of the brain or to the circulation remaining feeble, owing to the coexisting shock from the time of injury to the moment of death. In another group of cases the hemiplegia is ill marked because of brief duration, coming on as it does in these cases toward the close, giving but little warning, and leaving but short time for interference. These tests should be made; resistance to passive motion of the limbs, the power of the grasp, if any, the result of the needle prick, whether the patient moves either of his hands, or which of them, when the cornea is carefully touched or the cilia gently pulled.

(*c*) Hemiplegia present but temporary, produced by the brain being able to accommodate itself to the blood, which is a very rare condition. The mechanical compression which the brain suffers as the result of the intrusion of additional matter into a cavity with unyielding walls which the viscus exactly fills, the consequent disturbance of the circulation and nutrition by more or less complete obliteration of the cerebral capillaries, has been generally held to be entirely adequate to explain all the characteristic attending symptoms. It has been experimentally demonstrated that when wax is injected into the cranial cavity in excess of a maximum amount of 6.5 per cent., it being incapable of absorption, distinctive symptoms are produced, and when the amount reaches one-twelfth to one-sixth of the cerebral capacity, as its situation is epidural or subdural, fatal coma results. In compression from hemorrhage the resultant vascular disturbance leads to deficient nutrition. This is preceded by displacement of the cerebrospinal fluid into the vertebral canal. This continues till the capacity of that diverticulum is exhausted, and then circulatory interference begins as the tension of cerebrospinal fluid is augmented under pressure of continued extravasation and by increasing resistance in the vertebral canal, capillary flow is checked and may cease altogether with complete cerebral anemia and abolition of all functional control. The intercurence of edema from capillary transudation may further increase intercranial pressure. If the hemorrhage is epidural, sudden and profuse, permanent inhibition of consciousness; if the same extravasation is more gradual, cerebral anemia may never be complete or not until time has been afforded for relief; if it be of modeate amount as well as gradually effused, it may be capable of absorption without the necessity of interference. The pial and cortical hemorrhages are rarely sufficiently copious to produce marked

cerebral anemia, but they are associated with other lesions which contribute to a fatal result. In these instances of hemorrhage serious interference with the vascular supply and the occurrence of answerable inhibitory symptoms are comprehensible.

(*d*) Monoplegia, or paralysis more marked in one limb than in the other, is a very rare condition, as the hemorrhage generally causes pressure upon all the motor area.

(*e*) General paralysis is another rare condition which may be explained by a very large clot, *e.g.*, on the left side, rapidly effused and making pressure through the left side of the brain upon the right as well, or by coexisting extravasation into the brain itself.

(*f*) Absence of any paralysis is due to the effused blood finding its way through a fracture in the skull beneath the scalp.

(*g*) Limbs rigid, convulsed or twitching is probably due to contusion of the brain substance at more spots than one.

If the pupils are normal in reaction to light, the case is more likely to be one of compression only of the brain without other injury and the prognosis is good as to recovery if trephining is immediately performed. If the pupils are insensitive at the same time dilated, the compression is probably extreme, and, while trephining is urgently called for, it is less likely that in these cases the brain will recover itself after the removal of the clot. If one pupil is found widely dilated, the other being normal or contracted, and if the dilatation be present opposite to the side of the body which is paralyzed, taken with other evidences of hemorrhage, it points to a large clot reaching down into the base and pressing forward upon the sphenoidal fissure and compressing the third nerve.[2]

The pulse will vary according as the case is one of well marked uncomplicated extravasation or complicated with contusion or laceration of the brain, and if the concussion stage has been severe, according to the degree to which the heart has recovered from this. In well marked uncomplicated compression it will be slower than normal down to 52 and still falling and somewhat full and laboring.

The degree of coma varies with the amount and rapidity with which the blood is effused. Where effusion is rapid and compression great the coma may be as deep and complete as in apoplexy, but it may be found that though the coma is apparently deep, this is not really so; the patient may moan constantly or may move his limbs feebly when disturbed. Commencing coma may be taken for normal sleep or drunkenness. In a few cases the onset of coma is deferred till late, days and even months. Its onset is here sudden, its course rapid, and it generally ends in death.

Delirium, irritability and restlessness, when of immediate occurrence and when the effusion is moderate in amount, may be considered symptoms of hemorrhage, but only in the sense that a pleuritic pain is counted a symptom of pneumonia.

Respiration in well-marked cases is often stertorous and somewhat slow. The still greater alterations in breathing are, catchy short respirations, cyanosis and gasping, irregular breathing, ceasing for intervals of time, ten to fifteen seconds, and then repeated.

Case I.—C. N., a young man in fair health, received a severe blow on the left side of the head. Though dazed by the violence, he was able to get upon his feet and stagger off. On arriving home he became unconscious and remained so for several hours. On emerging from the attack his power of speech was gone and his right side paralyzed. Subsequently he again lost consciousness for some hours and again recovered. The hemiplegia and aphasia persisted for some time and it was only after the lapse of weeks that he could articulate or get about. About this time he suffered from repeated attacks of Jacksonian epilepsy and later, through a period of years, from flightiness, consisting of lapses of memory and confusional states. Eleven years later these seizures had become very rare and he became afflicted with severe and unremitting cephalalgia. There was nothing very typical about this pain; it involved the whole head, with occasional tendency to acuity in the left parietal region. Pressure disclosed no unusual tenderness, and the ophthalmoscope could find no token of any increase in intracranial pressure. There was no disturbance of locomotion. The right patellar reflex was a trifle increased. Iodides were given in large doses with no benefit. Morphine gave some relief. The following operation was performed at each corner of a quadrangle measuring two inches on a side and embracing in its area that portion of the left parietal bone situated immediately above the anterior central and posterior central convolutions, an opening was made with a small trephine. A chain saw was used to divide the bone between these openings and a flap of bone was turned back with periosteum and scalp attached. The dura was found slightly thickened at the upper portion of the opening but no adhesions. The dura was thickened and adhesions well marked at the inferior margin of the opening and extending below it for some distance. The adhesions were thoroughly broken up, the flap replaced and the wound closed. Recovery took place and the cephalalgia entirely disappeared.

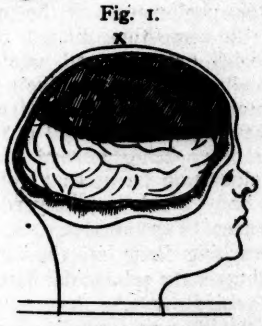
Corning, who reported this case, states that the manner in which the relief was obtained involves at once the pathology of hematoma and the morbid physiology of intercranial headache. On the one hand we have the insensitiveness of the hemispheres demonstrated by both vivisection and operative incursions, on the other the

fact that neoplasms embedded in their substance may and often do give rise to excruciating pain. In Niemeyer's Practical Medicine, Vol. II, p. 159, it is stated that the filaments of the trigeminus going to the dura mater are irritated in these cases and give rise to pain. The vagus also gives off sensory branches to the dura.

Case II.—N. D., age fifty-two years, a grocer, was thrown from his carriage. He fell on his head and received a large scalp wound on the right side of his forehead and a small one about the middle of the forehead. He remained unconscious from the stunning effect of the injury or the concussion for a few minutes. He was taken to a hospital, the wounds were sewed up, dressing applied, and he was allowed to go home in a carriage. He was seen that day by his family physician who found him suffering from partial loss of the sensation of the lower extremities, their movements slow and showing great exertion, temperature subnormal, and pulse about normal. The following day the temperature rose to 99° F. and the pulse became fuller, there was some vomiting, and severe frontal headache. Left hemiplegia was present but very little marked. The hemiplegia disappeared and the wounds healed up so that he left his bed at the end of three weeks, showing vertigo, iritability, partial anesthesia and some muscular weakness. At the end of two months he did some light work. Muscular weakness continued to increase marking a return of the left hemiplegia, pain in the head became more severe, vertigo more pronounced, so that his wife was obliged to follow his movements about the house to prevent his falling, avoiding this accident on several occasions by prompt action. Three and a half months after the accident he became so much worse that he was obliged to take to bed again. I saw him in consultation two weeks later and recorded the following facts: Coma, but moved his limbs feebly when disturbed and complained of pain in his head when aroused. Respiration stertorous and slow, pulse 60, temperature 99.2° F. per rectum. Tongue swollen and coated and was protruded straight out. The eyes and head deviated to the right side. The pupils were insensitive and somewhat dilated. He was voiding feces and urine in bed. There was no reaction to the needle prick. The grasp of both hands was feeble. There were rigidity and muscular twitchings of the extremeties and paralysis was more marked on the left side. He was placed on his feet and stood for a short time and then fell to the left side. Urine analysis was negative. A diagnosis of hemorrhage and compression was made and operation advised, which was refused. He grew steadily worse; general paralysis became fully developed and he went into deep coma and died thirteen days later.

Post-mortem examination showed a large curved scalp wound with a radius of about two inches and its highest point about three inches above the nasion, extending from the middle of the forehead into the right temporal fossa; a small curved scalp wound about three-quarters of an inch long situated one inch above the nasion and one-quarter of an inch to the left of the middle of the forehead. No atheroma of the vessels. Fracture of the outer table and slight depression of the inner table of the frontal bone at the site of the small scalp wound, some discoloration of the bone resembling necrosis. Removal of the calvarium showed the depression of the inner table to be slightly to the right of the longitudinal sinus. The right cerebral hemisphere was covered by an encysted clot of blood extending from the seat of fracture along the sagittal mid plane for 4¾ inches, measuring 2¾ inches at its widest point, and depressing the cerebral cortex an inch and a half. This came from a pial hemorrhage that had broken into the arachnoid cavity. It had its origin in a venous tributary near the depressed inner table where there was evidence of recent bleeding. The clot itself showed different stages of coagulation corresponding to successive accumulations of blood. The fourth ventricle contained a small amount of cerebrospinal fluid. See Figure 1.

Fig. 1.



This was a case of pial hemorrhage showing as points of interest: (1) An interval of consciousness following the stunning effect of the injury of over four months. (2) Cerebral anemia completed in about four months, which was preceded by deficient nutrition for a period determined by the degree of the vascular disturbance from compression. (3) Hemiplegia present early but little marked. It was temporary as the extravasation was gradual and the brain accommodated itself to the pressure. (4) There was a period of improvement during which hemorrhage ceased. (5) Hemorrhage recurred at successive periods as shown by the different stages of coagulation and additions to the original clot. (6) Toward the end hemiplegia became well marked. (7) Paralysis was more marked on one side than the other. (8) General paralysis appeared at the end. (9) The clot at death was about one-eighth of the cerebral capacity.

Allingham reported a case of pial hemorrhage in the *British Medical Journal*, Vol. I, 1889, p. 887, which he operated on one week after the accident and got a recovery.

Phelps has reported a number of fatal cases. Fifteen days was the longest time recorded from the date of injury to the date of death.

Case I.—Violent delirium for two days, recovery on the sixth day followed by unconsciousness and hyperesthesia. Temperature 103° to 104° F., later 100° to 103° F.; final temperature 103° F. Death in twelve days. The autopsy showed pial hemorrhage over the left occipital lobe extending into the median fissure, subarachnoid serous effusion, and absolutely no fracture of the skull.

Case II.—Delirium, normal pupils and respiration, temperature 101.4° F., pulse 114. Later excessive sensitiveness and irritability. The delirium continued, though it did not prevent rational reply to questions, temperature rose to 103.2° F. on the fifth day, and afterward fell very gradually to 100° F.; on the fourteenth day it was 103.4° F., and on the fifteenth, five hours ante mortem it was 103.8° F. and one hour post mortem it was 104.2° F. The autopsy showed pial hemorrhage over both hemispheres and in largest quantities over the parieto-occipital junctions, some subarachnoid serous effusion in the left frontal region, general hyperemia with punctate hemorrhages most marked on the left side, and no fracture of the skull.

Case III.—Absolute unconsciousness till death, one hour and a half after the reception of the injury; small wound behind right ear, dilatation and immobility of both pupils, respiration on admission 42, an hour later 21, ceased at death rather suddenly; no cyanosis, pulse feeble and soon became imperceptible, temperature on admission, 98.6° F. an hour later 98.2° F. The autopsy showed fractures of both tarsi comminution of both calces and right astragalus, fracture of the left leg. The patient fell, landing upright on both feet, transmitting the force through the lower extremities. There was a pial hemorrhage to the extent of several ounces of fluid blood mainly at the vertex and in larger part on the left side extending into the median fissure and which had broken through into the arachnoid cavity, also in considerable quantity upon the inferior surface of the cerebellum about the median line and covering the pons, optic thalami, and corpora striata in the order named, thrombosis of minute vessels generally most pronounced in the optic thalami and the pons, edema of the pons.

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5. American Journal of the Medical Sciences, April, 1886.
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9. British Medical Journal, Aug. 11, 1888.

Pennsylvania Society for the Prevention of Tuberculosis.—The annual meeting of this society was held Wednesday, April 12, at the Academy of Natural Science. At this meeting the annual election for officers was held.

A PRELIMINARY REPORT ON THE USE OF DIPHTHERIA ANTITOXIN IN EPIDEMIC CEREBROSPINAL MENINGITIS.

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"THAT branch of bacteriology which deals with the mutual antagonistic relations of pathogenic germs is still in its infancy. The facts already discovered suggest important developments in the future. To what extent clinicians will be able to utilize these antagonisms in the treatment of disease it is difficult to foretell. MEDICAL NEWS, March 4, 1905.

The above extract serves as an excellent introduction to the following:

Dr. Arthur J. Wolff, of the Board of Health, Hartford, Conn., "early found that there is a decided antagonism between the Klebs-Löffler bacillus and the meningococcus, and during the course of study on this portion of the investigation found that pure cultures of the meningococcus were killed by the antidiphtheritic serum, and not only precipitated when mixed with the latter, but active cultures, when mixed in bulk with the antitoxin are precipitated in the same manner. The ubiquitous newspaper man got hold of the whole matter, ere we had time to finish our work or our paper."—*Medical Record*, March 11, 1905, page 3.

On the strength of the above Dr. E. Waitzfelder used large and repeated doses of diphtheritic antitoxin subcutaneously. The method was given a fair trial and his impressions are reported in the journal just quoted. The results obtained at Roosevelt Hospital have not tended to confirm the enthusiastic reports of the beneficial effects observed at Gouverneur Hospital.

In Beth Israel Hospital and, a little later, at Roosevelt Hospital, in the service of Profs. Jacobi and Peabody, diphtheria antitoxin, because of the negative results obtained from its use subcutaneously, was injected directly into the subarachnoid space. A lumbar puncture was performed, 4 to 6 drams and even larger quantities of cerebrospinal fluid were allowed to escape, then 1,500 to 2,000 units of antitoxin were slowly injected. No ill effects followed in the series of cases in which this was done. In one case an antitoxin rash was observed seven days later. In some of the cases only one dose was given, in others the injections were repeated two or three times.

It appears to the writer that the results are promising, though final judgment is suspended until the number of cases is larger and the observations have extended over a longer period of time. Of course the treatment should be resorted to early, before the anatomical changes due to the seropurulent, purulent or fibrinous exudate, have taken place. The malignant type is not affected in the least by the method.

In two cases, one of which was of the foudroyant type, lumbar puncture revealed a gelatinous exudate, but a few drops of a thick, ten-

acious secretion escaping. Here it was impossible to inject the remedy into the spinal canal. In the children's service at the Beth Israel Hospital, the fluid obtained by lumbar puncture was examined at once and when the characteristic diplococcus was found, the injections were made through the same needle—strict asepsis being observed.

Not only did we observe an amelioration of the clinical features, but in several instances in which lumbar puncture was repeated within thirty-six to forty-eight hours the number of polynuclear cells was less and the diploccocci had diminished in number. In two cases in which the cerebrospinal liquor originally was creamy in color and consistence, the character of the fluid showed decided changes—becoming turbid and thin.

The above remarks are merely intended as a preliminary report, a more detailed account, with temperature charts, will be presented at a later date.

Dr. Wolff, during a recent visit, suggested that better results might be obtained if the antitoxin were used subcutaneously as well as intraspinal. He bases his views upon the fact that improved methods have established the frequent presence of the meningococcus in the circulation.

SOME POINTS IN THE CONSTRUCTION OF A HIGH FREQUENCY MACHINE.[1]

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It is the sudden pulses of judicious criticism rather than the orderly vibrations of unqualified approval that best enable us to distinguish the gems of true knowledge from the paste of preterlogical assumption: I therefore invite your citicism of the experimental data that form the basis of the present communication, in the hope that a full discussion may lead to the improvement in instrumentation which we all so much desire.

Without entering upon the vexed question of the very problematic advantages and more manifest disadvantages of employing oscillatory currents of low tension but large ampèrage in therapeutics, it may without fear of contradiction be asserted that the demand of the moment is for a high frequency machine, whose output of current will approximately equal, if not even exceed, one ampère: I purpose, therefore, to consider in brief detail some of the physical data which have a bearing upon the subject, and in so doing, incidentally to point out certain other details in which construction can be improved.

I will not waste valuable time in imposing on your attention the explanatory details of the two methods by which an alternating current of high frequency can be generated, for every student of electricity is familiar with these. He is also aware that the mechanical process was first in the field in order of time, and that it has ever since exhibited strong tendencies to somniscence from which it has lately been aroused by the superlative resuscitative efforts of Mr. W. Duddell and Herr E. Ruhmer. I will not, however, venture to predict the results of this new revival, nor claim a "great and glorious future" for these machines; as I fear that my efforts to shine as Saul among the prophets of high frequency would only convince you that my lips at birth were not graced by the silver spoon of prophecy—a fact of which I personally am well aware.

It may, however, be advantageous to recall sundry details connected with the electrical process of generation. Most modern text-books of electricity are careful to insist on the oscillatory character of condenser-discharges, and to detail in a very methodical manner the limiting circumstances; some go further and point out the conditions under which the spark-discharges of an induction coil or static machine can participate in these peculiarities; a few even venture to discuss the advantages that accrue from the combined use of an induction coil and condensers as a source of oscillatory currents: but the number of those which afford a scientific explanation of the phenomena of spark-discharges is extremely limited, although it is the theory of spark-discharges alone which can furnish us with the much-desired clue to further improvements in high frequency instrumentation.

The manuals of electricity, which purport to teach the young idea how to shoot, proclaim more or less loudly the disruptive nature of a spark-discharge. They talk learnedly about the potential difference between the electrodes producing a stress, to which the dielectric resistance of the gaseous contents of the air-gap eventually succumbs, and by so doing allows a spark to pass. Carefully analyze this statement, and you will find that it essentially consists of a verbal paraphrase—a restatement in scientific terms—of a fact of observation, and as such affords no real explanation of the cause of the phenomena, nor yet a valid answer to the question, "What conveys the current?"

Without superlative conceit one might imagine that this oft-reiterated assertion would cease when attention was called to the error. Unfortunately, human nature is not built on these lines, and the poet, Moore, with a deep knowledge of human frailty, asserts that:

> "Of all the concatinations of sound, about which the world makes a pother,
> None with so much glory redound as when one blockhead re-echoes another."

To return to our muttons—it may be said that the ionic theory of electrical conduction, which is the bed-rock of physical chemistry, affords us the best answer to the question: "What conveys the current?" for it recognizes that the air must be converted from an insulator into a con-

[1] Read before the Roentgen Society of London on February 2, 1905.

ductor before a curent can pass—in other words, that ionization is essential as an antecedent to electrical conduction.

I need not remind you that the movement of an electric current through an electrolytic solution is accompanied either by the revolution of gases at the electrodes, or by the deposition of substances held in solution about these two points. To explain electrolytic conduction we are driven to hypothecate the existence in the solution of free ions, which act as carriers of the current. The question is: "Whether this idea of free ions can be applied to substances in the gaseous state, so as to explain the conduction of electrical discharges through them?"

Let us institute a comparison between the two cases. In dealing with an electrolytic solution, we are accustomed to regard the *solute* rather than the *solvent* as the chief source of free ions, and we speak of the dissociation of the molecules of the electrolyte, meaning thereby the solute, as having been produced by the action of the solvent upon them. Now, in the case of an absolutely pure elementary gas, what is it that promotes dissociation? From whence are the free ions derived? Do all pure substances in the gaseous state contain free ions? These are questions we may well ask ourselves.

Let us regard some pure elementary gas as being alone present in the air-gap, and see whether we can learn anything regarding its electrical properties. Now, the researches of Thomson, Warburg, Strutt and others have shown that a perfectly pure elementary gas is in an electrically unstable state, and when perfectly dry and freed from all traces of contamination, will stand a potential difference several times as great as is ordinarily required to produce a spark-discharge through one less scrupulously freed from contamination. It is evident, therefore, that such gases must contain a minimum of free ions and that the tendency to electrical instability is reduced by admixture with a small quantity of aqueous vapor or by traces of other gases present in it as a contamination.

Further, we notice that if the gas employed be enclosed in a glass tube (fitted with fixed electrodes and connected with an exhaust pump), the spark-potential diminishes as the pressure of the contained gas is reduced, until the critical spark-length is arrived at. It is evident, therefore, that diminution of pressure within certain limits favors ionization. The superheating of gaseous compounds has been also found to promote dissociation. Are we then to suppose that ionization of the air in the spark-gap proceeds from either of these causes? Not necessarily; for there are other influences equally, if not more, potent to which it can more reasonably be ascribed. What then are the factors which promote dissociation of the gaseous molecules in the air-space?

Let us proceed in an orderly manner, and arrive at a differential diagnosis of the cause by the process of exclusion. As the terminal knobs of the discharger are not rendered incandescent prior to or during the passage of the discharge-current, it is evident that ionization by incandescent solids is quite out of court in so far as primary ionization is concerned.

Again, if we regard the spark-gap as enclosed in a perfectly fitting glazed earthenware or wooden box, guaranteed perfectly opaque to all luminous vibrations, the possibility of ionization being due to the photo-electric effects of external light can also safely be excluded. We can proceed thus through the whole category of known ionizers until at last circumstances compel us to refer it to the direct action of the electric field, which, before sending an electric current through the air-space must first render its gaseous contents conductive. How is this effected?

All who accept the ionic theory of conduction admit that every electric current traversing a metallic conductor is essentially *anionic*, and it is the wire connected with the negative pole that initiates ionization of the air-space by projecting into it a multitude of negatively charged particles—the electrons. These, in their onward movement, collide with the molecules of the gas, and by so doing promote their dissociation. This can be readily substantiated by noticing that the photo-electric effects of light, more particularly ultraviolet light, are mainly exerted upon the negative pole, a point which has been established by the experiments of Hertz, E. Wiedemann and Ebert, Swyngedauw, Warburg and others. Warburg ascribes this effect to the diminution of the *"lag"* rather than to any direct influence upon the *"spark potential."*

Again, if the air present in the spark-gap be at ordinary atmospheric pressure, the number of undissociated molecules present must be relatively great. The electrons, therefore, will not have to travel far before they encounter an undissociated molecule; consequently ionization of the air-space must primarily be restricted to the immediate neighborhood of the cathode. Here the positive ions produced by the disintegration of the molecules tend to accumulate, and by so doing to favor the evolution of a further discharge of electrons. Meanwhile, their electronegative better-halves, in moving anodeward, are brought into collision with other undissociated molecules. Once the process of ionic fractionation of the gaseous molecules in the spark-gap has sufficiently advanced to render the air conductive, a spark passes.

With the passage of the first spark, an important alteration in the medium of electrical conduction takes place. Schuster and Hemsalech have shown that if the sparking distance be not too great, it is only the first spark of a condenser discharge which passes through air; the succeeding ones all pass through a medium composed of the vapor of the metal of which the terminals are formed. Further, the introduction of self-induction into the discharge circuit tends to

banish the air lines from the spectrum of the spark and to render the metal lines more brilliant; for self-induction, by increasing the time during which the oscillations last, allow time for the volatilized metal to become uniformly diffused throughout the air space. Having reached the stage where the successive sparks traverse an atmosphere of metallic vapor, let us consider the factors now at work in producing and maintaining ionization.

You will doubtless remember that the heating effects of a spark-discharge greatly exceed that of the electric arc, and that elevation of temperature facilitates the splitting of the molecules. This is a factor of great importance. It is needless to add that the rarification of the vapor in the spark-gap promotes the more efficient discharge of electrons, and allows them to acquire a greater velocity. In this aerially constituted Crookes' tube the velocity acquired by the positive ions in traversing the Crookes' dark-space is accelerated, and so promotes further ionization. Nor are we yet at the end of our list of possible causes; there are still others, among which the folowing deserve notice:

(*a*) *Ultraviolet Rays.*—These are generated by the spark in quantities which depend somewhat on the nature of the substance used to form the electrodes. Projected upon all surfaces in the vicinity, a certain proportion of the rays find their way back, by reflection, to the negative pole, and so diminish the lag.

(*b*) *Derma Rays.*—These pulses are caused by the acceleration of all charged ions under the influence of the electric field. They are the analogues of the secondary and tertiary Roentgen rays noticed by Perrin, Sagnac, Roentgen, Langevin, Townsend and others. Hoffmann has proved that they possess a remarkable capacity for ionization.

(*c*) *Entladungstrahlen.*—These are better known to us in England as Townsend's easily absorbed radiation. In America they constitute what is known as the "Piffard" rays. They are probably ether vibrations; they undergo no deflection in a magnetic field, excite thermo-luminescence, and by ionizing the air discharge and electroscope even when positively charged. They are generated in the greatest abundance when the sparks pass between aluminum terminals, and the ionization they cause lasts several minutes after the cessation of the discharge.

It is obvious, therefore, that in proportion as the ionization of the gaseous contents of the spark-gap advances, the dielectric resistance of the air is reduced; so that with a constant spark-potential the output of current becomes greater. Without dilating upon so self-evident a proposition, we may, as time presses, pass on to the consideration of certain other experimental data, which have a bearing upon electrical conduction.

The first of these to which I shall draw attention is Prof. Slaby's experiments to determine the proportional conductivity of single versus multiple spark-gaps. The following procedure devised by him was employed in the experiments: An oscillatory circuit was formed by connecting *in series* two spark-gaps (the one of fixed, the other of variable length), along with a condenser and inductance, a graphite rod which serves as a variable resistance, and a delicate hot wire milliammeter. To prevent the final potential of the fixed spark-gap from being affected by alterations in the length of the variable spark-gap, the latter was shunted with an electrolytic resistance. Ammeter readings were taken with the variable gap at different lengths from zero upward the current was thus obtained as a function of the spark-length. In the next series of experiments the graphite resistance was brought into play, and its length altered so as to compensate for the decrease in the length of the variable spark-gap, a new series of records were then obtained. When plotted at equal ordinates, these two curves gives the resistance of the spark-gap in ohms.

Prof. Slaby's results plainly proved that the resistance rose parabolically for small lengths, and then increased linearly. It was likewise noticed that increased capacity, which is tantamount to diminished oscillation frequency, produces a diminution in the resistance per mm. of air space at all lengths. By plotting the conductance of the air-gap on an oscillation period base, it was found that as the frequency diminished, the conductance also fell, at first linearly, then much more rapidly, so that for all periods small spark-gaps were more than proportionately better conductors than a longer air-space. For instance, the effective resistance of a gap of 10 mm. under a discharge potential of 30,000 volts amounted to 15 ohms, while that of three gaps of 2.5 mm. each when coupled *in series* did not exceed 0.6 ohms with the same discharge voltage. These experiments point to the fact that there is a distinct gain in amperage by the use of the multiple spark-gap.

The second point to which I will refer is culled from a communication made by Herr W. Weicker to the *Elektrotechnische Zeitschrift* for November 3, 1904. He has shown that the relation between air-gap and disruptive voltage only follows the straight line law, when the discharge takes place between points. When, however, metallic spheres, such as the knobs of a discharger, are employed, the character of the phenomenon depends upon the way in which the knobs are arranged. In these are placed *vertically, i.e.*, one above the other, there are two distinct disruptive voltages for any air-gap between 65 mm. and 160 mm. For a gap of 150 mm. the voltage approximately are 57,000 volts and 82,500 volts. When the knobs are arranged *horizontally*, the law is represented by a single curve with irregularities. This furnishes us with the clue to the proper arrangement of the balls in the multiple spark-gap.

The third matter that I consider deserving of

notice is the results recorded in Warburg's paper[1] as to the action of ordinary daylight in producing an appreciable decrease in the lag. In spite of the volumes of very pretty talk about silent spark-boxes and of deadening noise by enclosing the spark-gap in a wooden box lined with felt, I ask you to remember that in preparation as you prevent external light from acting upon the spark-gap do you sacrifice efficiency. In commenting upon Warburg's paper, Prof. J. J. Thomson says, "In the dark the spark does not always pass even when the potential difference is nine times that required to produce a spark when the field is continuous; in the arc light a potential difference, only a little greater than the minimum required to produce a spark, is always effective; daylight also produces a very perceptible diminution of the *lag*. Now, if you use the multiple spark-gap, you will not have much reason to complain of noise, and in so doing you obtain relative silence without any sacrifice of efficiency.

The fourth question that calls for an answer is "Of what size must the spheres be that form the knobs of the multiple spark-gap? Is it better to use large or small knobs? Now, the results of Baille's[2] and Paschen's[3] experiments have been analyzed by Schuster, who has, by the aid of Kirchhoff's Theorem of Electrical Distribution over Spheres, shown that the more irregular the electric field (*i.e.*, the smaller the spheres), the greater is its maximum electric intensity before the spark passes. It must, however, be remembered that inequalities in the electric field between small electrodes is reduced but not altogether annihilated by the process at work during the lag.

The fifth proposition to be considered is "Have we any reliable guides that will help us to determine the nature of the substances to be used to form the electrodes?" Now the experiments of De la Rue and Hugo Müller[4] have shown that sparks pass more readily between aluminum or magnesium electrodes than between those formed of any other metal. The explanation of this phenomenon is that the spark potential, which has a very close relation to the cathode fall of potential, is to some extent determined by the absorption capacity of the metal for hydrogen, and is inversely proportionate to the amount of disintegration produced in unit time by incandescence. The advantages which aluminum electrodes offer as a source of very efficient ionizing spark-gap radiations must here be taken into account.

The sixth point that demands our attention is Thomson and Mey's observations as to the abnormally small cathode fall of potential noticed when the electrodes are new, and the subsequent increasing drop with prolonged use. Warburg ascribes this effect to the presence upon the new electrodes of a microscopically thin layer of oxide which is removed by the disintegration which goes on during use. Thomson has shown that there is very little disintegration of aluminium electrodes in nitrogen and air, but a large amount in monatomic gases, such as helium, argon, and mercury and cadmium vapor. Even a trace of oxygen present as a contamination in nitrogen, seems to increase disintegration to an appreciable extent. This effect of oxygen is in some measure reduced by aquous vapor when present in minute quantities, but not altogether prevented. It is evident, therefore, that the current efficiency of the spark-gap can be maintained only by the periodic replacement of the old disintegrated knobs by freshly burnished spheres.

The effects upon spark-potential of the *nature of the gases in the spark-gap* has long engaged the attention of physicists. Compound gases and the halogens in which dissociation can very readily be produced lower the spark-potential; but their effects upon the electrodes have to be considered. Natterer found that among elementary gases the spark-length was superlatively greater in monatomic vapors (for the same potential-voltage than in those of other valencies. The ratio of potential difference between the electrodes in air as compared with N, H and O are as follows: 34 : 25 : 20 : 32. Arons has observed that a variation results from the alteration of the metal used to form the electrodes. For aluminum terminals, the spark-potential in air as compared with nitrogen is as 13 : 9. The advantage of employing pure nitrogen is therefore obvious.

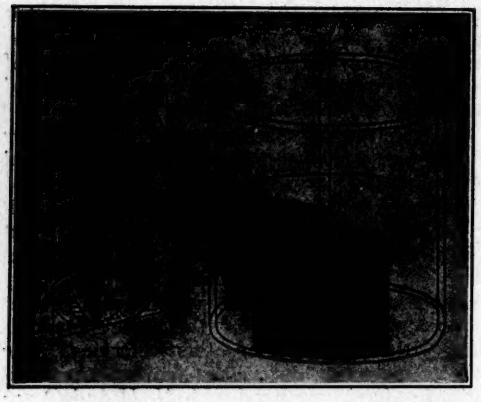
Faraday's experimental researches have shown that there is a distinct advantage in imprisoning the gas in the spark-gap and preventing its diffusion into the surrounding air. The electrical instability of a gas, ionized by the passage of a spark, is not in such a case entirely abolished till several minutes have elapsed. In an exposed spark-gap, on the other hand, diffusion rapidly takes place, and a fresh supply of unionized air obtrudes itself between the terminals of the discharger. I may incidentally refer to a question that may have engaged the attention of some here present. It is, whether there is any advantage in using a compressed air spark-gap. The answer must be a most emphatic negative. It is not the dielectric resistance of the air, for this only serves to increase its capacity for insulation, but the dissociation of the gaseous molecules produced by ionization which directly favors conductivity, and by so doing increases the output of current. The only reasonable plea that has been brought forward for the compressed-air spark-gap is that it imprisons the gas already acted upon and rendered conductive by the spark, and prevents its diffusion. The same, however, can be done by imprisoned air at normal or slightly subnormal atmosphere pressure without any such sacrifice of efficiency.

[1] Sitz. A Rad. der Wissenschaften, Berlin XII, p. 223, 1896.
[2] Annales de Chimie et de Physique (5), XXV, p. 486, 1882.
[3] Wied. Ann., XXXVII, p. 79, 1889.
[4] Phil. Trans., 139, Part I, p. 93, 1898.

In summarizing the experiments which have a bearing on the proper construction of an efficient spark-gap, allow me to say:

To obtain the maximum discharge it is necessary to employ a multiple spark-gap, whose discharging knobs are spheres of polished aluminum arranged horizontally. A leak must also be provided between the adjacent spheres. This may be an electrolytic solution of high resistance, but it is more satisfactory to employ a coil

Fig. 1.



of self-induction. To protect the knobs against rapid deterioration with use, the entire spark-gap may be hermetically sealed in a crystal globe or glass egg filled with absolutely pure anhydrous nitrogen. Such a spark-gap is diagrammatically represented in Fig. 1.

Remember that if spark-potential determines the ampèrage of the derived current, it is the capacity of the condensers that influences its frequency. If you desire to vary the frequency

Fig. 2.

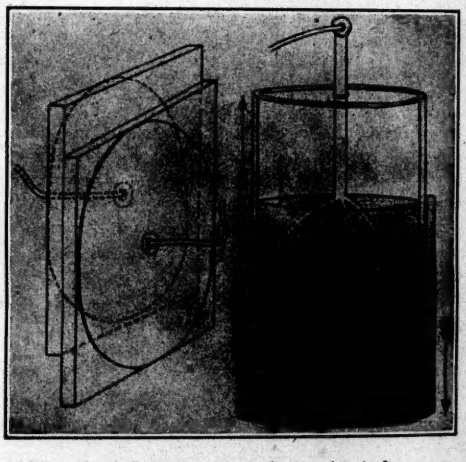
of the currents you must employ condensers of variable capacity.

In the paper giving the results of my experiments to determine the effects of form and winding on resonance phenomena, I incidentally mentioned the fact that the capacity of a condenser could be varied by altering the relation of the armatures to each other. This can be done either by raising or lowering one armature so as to alter its position with respect to the other, or by rotating it through an arc, less than a semicircle. This principle applies both to the case of the flat condenser and that of the Leyden jar. Figs. 2 and 3 will show you how this is effected. In Fig. 2 the area of the electrically-opposed condensatory interfaces is altered by raising or lowering one armature while leaving the other unaltered. In Fig. 3 the same result is arived at by the rotation of one armature with respect to the other.

This procedure will allow you to produce a variation within very extensive limits—limits fixed only by the maximum capacity of the two armatures when in perfect electrical apposition to each other.

It is not enough, however, to look to your spark-gap and condensers, while leaving the metallic connection between them a prey to the errant winds of fancy. You will remember that in proportion as the frequency of an alternating current becomes greater the more does the current tend to confine itself to the surface of the con-

Fig. 3.



ducting wire. In a current of very high frequency, like that generated by the oscillatory discharge of condensers, the so-called skin resistance has to be provided for. This necessitates the use of hollow metallic tubes to connect the internal armatures of the condensers with the spark-gap. You are thus able to conserve a maximum of the current and convey it by induction into the circuit of utilization.

One other point. See that the wires leading from the secondary of your transformer or induction coil are connected directly with the two outermost knobs of your multiple spark-gap, and not to the rod leading to the internal armatures of your condensers. As I am afraid I have already exceeded my space limit I will not go into the whys and wherefores of this question, which complete my remarks on constitutional details of the circuit of generation; I shall leave to some future occasion the consideration of improvements that can be made in the circuit of utilization.

REPORT ON THE USE OF STOVAINE.[1]

BY C. G. COAKLEY, M.D.,
OF NEW YORK.

Stovaine was discovered by M. Forneau of Paris, in studying the properties of the amino tertiary group. It is a hydrochloride of α-dimethylamine β-benzoylpentonal.

Chemical Properties.—Stovaine crystallizes in small brilliant scales, melting at 175° C., and is extremely soluble in water, methyl alcohol and acetic ether. Absolute alcohol does not dissolve more than one-fifth of its own weight. It shows slightly acidic properties to litmus, but is neutral to methyl orange.

Its aqueous solutions are precipitated by all alkaloidal reagents, and are sterilizable by heat. On being boiled for a long time (say for an hour) the dissolved stovaine is not altered in any respect, and after evaporation is found to be intact. These solutions do not suffer decomposition at a temperature as great as 115° C., when boiled in a sterilizer for twenty minutes, but at 120° C. they slowly decompose.

Briefly, the stability of stovaine is so superior to that of cocaine that no comparison exists between the two products in this respect.

The writer can attest to the fact that frequent boiling of a ten per cent. solution has not diminished its local anesthetic properties.

Five grams of stovaine were received on January 12 of this year. The entire amount was dissolved in 50 c.c. of sterile normal saline, thus making a ten per cent. solution. This was kept as a stock, some of which was applied to the nose or throat, where operative procedures were undertaken. From it also a 2 per cent. solution of stovaine was prepared for use as a spray in the nose and throat for diminishing the sensibility of the parts in the usual manipulations necessary for purposes of diagnosis.

Two similar solutions of cocaine—one a ten per cent. and the other a 2 per cent.—were employed for the purposes of comparison.

Most of the minor operations common in office practice occurring in our specialty have been performed under both cocaine and stovaine during the past six weeks. In all cases where two operations have been done on the same patient, stovaine was used in one and cocaine in the other, under as nearly as possible similar conditions. Careful questions were asked of each patient to determine which was the better anesthetic and which gave the least disagreeable symptoms.

My observations have led me to the following conclusions:

1. That stovaine as a local anesthetic is apparently equal to cocaine.

2. That the time necesary for acquiring local anesthesia is the same as that of cocaine.

2. That it apparently does not contract the nasal mucous membrane to so great an extent as do similar solutions of cocaine. This is at times a disadvantage when the nasal passages are desired to be widely opened for more thorough inspection of the cavities; on the other hand, it is oftentimes an advantage, as in snaring of redundant tissue by not too greatly shrinking it, and therefore making it more easy to be removed.

4. Stovaine does not produce nearly so great a sense of constriction in the pharynx as that which is produced by cocaine. In this respect it has a decided advantage over cocaine, especially in those patients to whom the symptoms of constriction with constant desire to hawk and remove a supposed foreign body are very distressing.

5. Solutions of stovaine have a peculiar odor of stale fish, which has been annoying to some of the patients.

6. Some of the patients have complained that solutions of stovaine are more bitter than similar solutions of cocaine.

7. We have seen no toxic effects following the use of stovaine; there have been no secondary headaches or feeling of lassitude after the local anesthetic effect of the drug has disappeared; I am also of the opinion that the secondary swelling of the mucous membrane following the use of stovaine is less than that which occurs after cocainization.

8. It is but fair to say that during this period when cocaine was employed we had no case of marked cocainism.

[1] Read before the Section on Laryngology, New York Academy of Medicine, February 22, 1905.

ON THE TREATMENT OF CHRONIC OSTEOMYELITIS AND OF CHRONIC BONE CAVITIES BY THE IODOFORM WAX FILLING.[1]

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It is a basic principle in surgical technic never to leave cavities or dead spaces in a wound if it can be avoided. In most cases where we leave behind cavities, these have collapsible walls, so that, after a short time, the walls come into contact with each other and the space becomes obliterated. As examples of cavities of this kind may be mentioned the bed from which a tumor has been removed or the dead space left after the evacuation of the contents of an abscess. Sometimes a part of the wall of the cavity is rigid; as in the chest after an empyema operation; we then seek to make the cavity smaller by causing the maximum of expansion of the lung, and if this does not suffice, we resect a number of ribs so as to collapse the soft parts of the chest wall and thus obliterate the space that has remained.

It is far different, however, with cavities left in the bones, and more especially in the long bones after operations for disease in those structures. Bone cavities have rigid, unyielding walls, in which blood and secretions are only too apt

[1] Read at the February Meeting of the Surgical Section of the New York Academy of Medicine.

to collect and stagnate and to serve as a nidus for bacterial growth. In deficiencies in the bony skull, osteoplastic methods are often successful, but in the case of the long bones, they are seldom feasible. In the majority of the cases, these cavities in the long bones have to heal by the slow and tedious process of granulation; repeated operations and months of treatment are often necessary to obtain healing. The best way to keep these cavities relatively aseptic and thus favor the growth of healthy granulations is to change the dressings as infrequently as possible.

From the very earliest times, attempts have been made to obliterate these cavities by filling them with tissues from some other part of the patient's body, or by the introduction into them of foreign substances. Large pieces of bone or bone chips, muscle or fat were taken from one part of the patient's body and introduced into the cavity, but successes were few and failures many. Later, the moist blood clot method of Schede was highly recommended. The good results with the method were, however, rare and the procedure has been almost entirely abandoned. The skin flap method recommended by Neuber has occasionally yielded good results, but in many cases there is not sufficient skin for the formation of satisfactory flaps. Bone derived from animals and prepared in a number of ways was next tried but without success. Attempts were made to fill the cavities with a variety of foreign substances such as glass, ivory, rubber, cork, lead, sponge, celluloid, plaster-of-Paris, gold-foil, copper amalgam, gelatin, etc., but satisfactory results were obtained in only exceptional cases. The materials introduced almost always acted as foreign bodies, caused increased secretion and suppuration, and were either extruded or had to be removed.

During the last three years, Mosetig-Moorhof, of Vienna, and his assistants have published the results that they have obtained with an iodoform wax filling for bone cavities. Impressed by the claims of these authors, the writer determined to give the method a trial.

The steps of the procedure as described by Mosetig-Moorhof, are the following: The limb is prepared in the usual manner and rendered bloodless by the Esmarch constrictor. The bone is exposed, the periosteum turned back, and all diseased bone removed with the chisel, spoon, etc., until the walls of the cavity are formed by healthy bone. The cavity is then thoroughly washed out with sterile salt solution, and its walls rubbed with sponges wet with two per cent. formalin solution. The bleeding from the bone is next stopped by hot irrigation, the insufflation of sterilized hot air, and tight packing with gauze. The soft parts are now carefully examined, all diseased skin, sinuses, etc., excised, until the wound in the soft parts is formed by healthy tissue. As soon as the bleeding from the bone has entirely ceased the filling is introduced. This filling consists of a mixture of 60 parts of iodoform, 40 parts of spermaceti and 40 parts of sesame oil. The mixture is prepared by heating the spermaceti and the oil of sesame over a water bath for one-half hour, then adding the iodoform to it, and preserving the mixture in a sterilized bottle or special retainer. When the filling is to be introduced, the mixture is melted by immersing the bottle in hot water , and while still fluid is poured into the cavity, until the latter is entirely filled. Within a few minutes the mixture solidifies. The periosteum, or, if this is impossible, the soft parts are closed over it, the skin wound closed with or without drainage, and a dry compression bandage applied. The Esmarch constrictor is then removed. The wound is dressed after seven to ten days and in the majority of the cases will be found to have healed by primary union. If the wound has been drained, which is advisable in most cases, the sinus left will heal in the course of a few weeks. In a certain number of the cases, the wax mixture is slowly extruded in the course of several weeks by the active growth of new tissue around it, and the mixture seems to act as a powerful stimulus to this growth. Iodoform poisoning was never seen, in spite of the large percentage of that substance in the mixture, as the iodoform is very slowly absorbed out of the filling, but traces of iodine were sometimes to be found in the urine for the first two or three days after the operation. Healing usually occurred without much elevation of temperature or pulse, although occasionally there was observed a marked rise of both temperature and pulse for one or two days.

As a result of his investigations and experiments on animals, Mosetig-Moorhof was able to determine that the wax mixture slowly disappears as new tissue grows into it from the bone, and the gradual disappearance of the mixture could be nicely followed in X-ray pictures.

Mosetig-Moorhof declares that his method is applicable to all forms of chronic bone disease inclusive of the tuberculous variety, and also to chronic tuberculous affections of the joints, but the method is not applicable to acute bone disease in which the cavity cannot be rendered aseptic. In order to insure successful results, great care must be observed that the walls of the cavity shall consist of healthy bone, and that the soft parts of the wound shall be thoroughly freshened; the oozing from the bone must be very carefully stopped before the wax mixture is inserted, so that no blood shall collect between the wax mixture and the walls of the bone cavity.

During the past year, the writer has used this method on the surgical service of Dr. Lilienthal at the Mount Sinai Hospital in three cases of chronic osteomyelitis of the hip; four of chronic osteomyelitis of the femur, one of tuberculous disease of the tibia, one of chronic disease of the ulna, and one of chronic tuberculosis of the bones of the elbow-joint. All of the patients had been repeatedly operated upon in various hospitals, including our own, without permanent cure.

The results that I have obtained with the method of Mosetig-Moorhof, although not as good as those of this author, have shown much improvement over former methods of treatment, so that I feel warranted in recommending the method for further trial. I think it probable that with increasing experience the various steps of the method may be much improved upon.

It is better to remove the Esmarch constrictor from the limb before the wax mixture is introduced so that the hemostasis in the bone cavity may be more perfect and the oozing from the bone be perfectly controlled when the normal circulation is established. In the second place, I have not made use of dry hot sterilized air in controlling the oozing from the bone cavity because this required more complicated apparatus than I had at hand. The bleeding has been entirely controlled in our cases by irrigation with hot saline solution, irrigation with peroxide of hydrogen, and packing of adrenalin and dry sterile gauze. In our cases the wax mixture often did not harden as quickly as claimed by Mosetig-Moorhof, and considerable time was often lost in waiting for the mixture to become firm. During this time slight oozing was apt to occur from the bone and to leak through the mixture while it was still semi-fluid. Even if the filling seemed fairly hard, the central portions were still soft, so that considerable of the softer portions of the filling were squeezed out when the soft parts of the wound were being closed, and the solidity of the filling was thus rendered imperfect. I now pour the melted mixture into a basin of sterilized cold water and mold it with the hands until it has about the consistency of putty. I then press bits of the mass into the walls of the cavity and thus stop the very slightest oozing from the bone and fill up all small spaces (in the same way that we use Horsley's bone wax in cranial surgery). When this has been done, the cavity is lined by a thin layer of wax and is absolutely dry. Then the cavity is tightly packed with the filling in the same way that the dentist fills a cavity in a tooth.

I have never used more than 20 per cent. of iodoform in the wax mixture because in my earliest cases I had one of well-marked iodoform poisoning. I have tried also to use a mixture of iodoform and spermaceti without the oil, and a mixture of iodoform and paraffin without the oil, but the results have not been as good as those obtained with the mixture of equal parts of spermaceti and oil containing 20 per cent. of iodoform.

In three of the cases here reported there was a considerable rise in the temperature and pulse, after the operation, which lasted for from two to four days. All but two of the patients had small quantities of iodine in their urine for one or two days after the insertion of the filling; in one case there were marked symptoms of iodoform poisoning for twenty-four hours. The patients almost uniformly complained of a burning sensation in their wounds for a few days but thereafter declared that they felt better than after any one of their previous operations.

In six patients, the wounds healed by primary union except for the drainage opening. In four of these cases, the filling remained in situ; in one, a small part of the wax was extruded and the wound then healed up; in the sixth case, all of the filling was extruded in the course of two weeks and the wound then rapidly closed.

In a patient who had a large cavity occupying almost the entire tibia, the result of a tuberculous osteomyelitis and numerous operations, I introduced the filling, but was able to close only about two-thirds of the wound in the soft parts. The wax filling remained in place for about two weeks and was then gradually pushed out of its bed by the active growth of granulations around it. The shell of bone that was left was very thin and during the manipulations incident upon the last operation a fracture had occurred. At the end of four weeks the fracture was firmly healed, and six weeks later, the large wound was entirely healed and the cavity was filled with new tissue so that the scar was hardly depressed. During the healing, the discharge was serous or seropurulent in character and small in amount. This case demonstrated the powerful stimulating effect of the mixture, and the rapidity of growth of new granulation tissue. I have observed this same effect in other cases. In three of the cases that I operated upon the method resulted in failure. One patient had a large cavity in the lower end of the femur after several operations for osteomyelitis two years before. In spite of three operations, I never succeeded in rendering the cavity aseptic; after each operation the wound reopened and the wax was extruded. At the present time, the filling inserted at the third operation is being gradually extruded with considerable purulent discharge. In a case of chronic disease of the ulna, the filling remained in place for a number of weeks, but on reopening the wound, at a second operation, it was found that a sequestrum had been left behind. After the last operation a sinus has persisted for four weeks and although no bare bone is to be felt and there is very little discharge, the operative procedure must be considered a failure.[1] In a third case, one of sinuses of the hip-joint of many years' duration, the wax filling gradually escaped and a sinus still persists.

In the case of a child of six years, who had several sinuses left after resection of the hip-joint for suppurating tuberculous arthritis (the sinuses had persisted for two years in spite of repeated operations, so that the patient was considered incurable), the wound was entirely healed three weeks after the filling had been introduced. Owing to a misunderstanding, the little patient was allowed to walk around without a hip-splint, so that direct pressure was made upon

1 After the above was written the wound closed rapidly. It was healed in three weeks, and has remained healed up to the present time.

the wax filling. Some months later a sinus reformed from which the wax is being extruded at the present time, but there is little discharge. The general condition of the child, which was very poor when she was operated upon, is now excellent, and I have little doubt that the sinus will soon close. This case must, however, be included among those in which the operation was not or was only a partial success.

With the exception of the cases just mentioned, all of the other patients have remained well up to the present time, the most recent case was operated upon two months ago and the first case more than three years ago.

A careful consideration of the results that I have obtained in the cases I have operated upon, has convinced me that the method of Mosetig-Moorhof is worthy of a more extended trial than it has received up to the present time. It must be remembered that the cases in which this operation was tried were cases in which all other methods of treatment had failed. The general condition of the patients is very much improved because the long-standing and continual suppuration is stopped. If the operation is successful, the patient's stay in the hospital is much shortened. Even if the filling is extruded, the healing process will be much hastened.

Success will depend to a great extent upon the thoroughness with which the operation is done. The procedure is a slow and painstaking one, and it is not unusual for the operation to take one to two hours. If the patient's condition does not allow of so prolonged an anesthesia, the operation may have to be done in two stages. The greater the care that is taken in the preparation of the bone cavity for the filling, the better will be the results that will be obtained. I believe that with increasing experience, the cures obtained by this method of operation will become more and more frequent. A more detailed account of my experiences is reserved for a future publication.

THE SIGNIFICANCE OF EPIGASTRIC PAIN.

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THE epigastric space is, for convenience, divided into right and left epigastric, or right upper and left upper quadrants.

Permit me, for just a moment, to refresh your memory as to the anatomy of these regions, before proceeding further. The left epigastric space contains the largest portion of the stomach; the spleen, the greater portion of the pancreas, and a portion of the upper lobe of the liver; the right epigastric region is particularly rich in anatomical considerations, containing, as it does, the pyloric end of the stomach, the duodenum, the greater portion of the liver, the gall-bladder, the cystic, the hepatic and the common bile ducts; a portion of the ascending and transverse colon; and the head of the pancreas with the opening of its chief duct: the duct of Wirsung.

We can readily observe, then, by this brief summary, that by far the chief causes of pain in the epigastrium are incident to the diseases of the liver, stomach, and the gall-bladder and its ducts.

So much greater are the possible sources of epigastric pain due to the diseases of these organs, that we will consider the subject chiefly from such standpoints; and, first of all, I will consider the methods of examining patients complaining of epigastric pain.

I regret to note the carelessness and indifference shown to such patients by their medical attendants. When a person enters your office, you have every reason to believe two very important propositions. First: He is ill, or thinks he is ill, and needs medical advice and attention. Second: He honors you by coming to your office, and, by so doing, he carries the inference that he has confidence in your medical ability, and desires your advice, else he would have applied to another on exactly the same premise.

If, then, you give that patient the privilege of a thorough examination, you are not only in position to proceed to treat and advise him more intelligently, but you have substantiated and strengthened his confidence, which first brought him to you, by your careful interest in his condition, to say nothing of the benefit you have derived yourself by improving a clinical opportunity, since every case, properly treated, after a thorough examination, presents some very interesting and instructive clinical points, which increase your own usefulness.

You cannot, intelligently, tell a person the cause of pain in the stomach, or the epigastric region, by looking on the outside clothing, or by examining his pulse or tongue. Request the opportunity to see the surface of the body; it may tell you much. You can note, then, if there are distentions or depressions, whether any prominences move with respiration, as in large gall-bladder involvements. You can note epigastric pulsation, if present; you can detect jaundice in the portion of the body covered by the clothing more readily than on the face.

Palpation reveals fully as much. It determines whether the prominences noted are hard, suggesting tumors; or soft, indicating distention by gas or fluid. You can usually feel the free border of the liver, beneath the right costal arch. You can, with a little practice, find the kidneys on either side, and it might be well to note in passing that the left kidney lies one-half inch higher than the right, and that the position of the latter is directly back of the gall-bladder. Not infrequently, some pathological condition of the kidney gives rise to epigastric pain, and, pressure on the gall-bladder increasing it, one thinks he has a gall-bladder involvement, when, in fact, the trouble lies behind.

Epigastric pulsation used to be considered pathognomonic of carcinoma or pyloric ulcer, but to-day we know that in spare subjects, where

the abdominal walls are thin and free from fat, and where the chest wall is flat, we can see, not infrequently, epigastric pulsation when there is no pathological condition in the upper abdomen.

I will merely mention auscultation and percussion in passing. By auscultation we can often determine the metallic note of gaseous distention of the stomach, suggesting a fermentative process, due to faulty evacuation of gastric contents, and we immediately think of duodenal or pyloric stenosis, due to the cicatrices of a former ulcer; or of a motor insufficiency that allows the stomach to sag below the point at which it can be emptied by its impaired contractions. Percussion only emphasizes and confirms the conditions found by auscultation. After a little practice, one can readily detect the percussion note of a distended stomach from a dilatation of the transverse colon, and can also recognize a normal area of hepatic dulness, and quickly note any increasing or diminishing of this area.

To the laity, the term "stomach" includes all the space from the borders of the ribs to the brim of the pelvis, so that when one comes to you complaining of a pain in the stomach, it may be wise, perhaps, to ask him to put his hand on the point of pain. You may be surprised at his knowledge of anatomy, both from the standpoint of ignorance, as well as intelligence, and it requires no small amount of nice discrimination, sometimes, to get any information regarding the character, location, duration and degree of discomfort.

So much, then, for introduction and generalities.

By far the commonest complaint that the physician will hear from patients is, that they have "indigestion." This expression is extremely vague and indefinite, for nearly all conditions of the stomach or biliary apparatus are associated with some form of indigestion, so we must draw out our information piecemeal, as it were.

Much information can be assumed from the social and physical surroundings of patients. For instance: If the patient is an anemic woman in the first three decades of life, and is nervous, we are reminded of a gastric ulcer. The pain, in the typical case of gastric ulcer, is an acute, sharp, "sore" pain, which has increased on taking anything of an acid or saccharine nature into the stomach, is sometimes associated with vomiting, and occasionally with the emesis of blood or bloody material. The pain is occasionally (in about one-third of the cases) referred to a corresponding point in the back, and the history will bring out the fact that the patient is extremely nervous, irritable, impatient, and altogether petulant. The history will also show that her trouble is of long duration. The stools are often of a tarry consistency, and, upon being dissolved in cold water, hemoglobin can be freed. There are, usually, intervals (especially between meals) when the pain is constant and of a boring nature, accompanied by eructations of gas, and, at times, the intensely acid fluid contents of the stomach. They will tell you that at such times, the taking of some bland food, of the drinking of considerable water, will afford relief. The total acidity of the stomach contents, if examined, will be found to be greatly increased, some two or three times the normal amount.

This condition is to be differentiated from impaired motility of the gastric walls, cholecystitis, and carcinoma. In the first, the analogy is extremely close. Men suffer more commonly, however, than women, and the condition has been noted in all ages above twenty years. The main difference is in the character of the pain, the time it occurs, and the absence of bloody vomit or black stools. Impaired muscular motility, or gastric atony, is due to an innervation of the gastric muscle, is common in the aggressive, intense, energetic type of people, and is the result, directly, of an exhaustive and bankrupt nervous system. The voluntary muscles and the brain have had more than their share, and the passive, easily imposed upon stomach, has been slighted.

The pain is more a sense of weight or oppression, but may become a dull ache, and, at times, even an acute boring pain. It usually occurs midway between meals, and is more common among those who drink large amounts of water with their meals. Vomiting is rare. Patients will tell you that they scarcely ever vomit. Drowsiness and mental dulness is common, and also, not infrequently, are periodic attacks of terrific headaches, which are the direct result of disturbed metabolism.

Impaired motility and gastric dilatation quite naturally divides itself into three general classes of degree and gravity:

1. Simple atony, where the motility is lessened without any corresponding dilatation, and where digestion is normally performed. This condition is accompanied by a feeling of discomfort, but is not attended with nausea or vomiting, and is usually readily overcome by a tonic treatment aided by judicious eating, and lessened nervous activity.

2. Atonic dilatation follows closely on the heels of simple atony. It is due to the atrophy of the gastric muscle, and the tone is impaired or lost, so that the impaired stomach is unable to empty itself, and sags away down into the abdomen, sometimes descending as far as the brim of the pelvis. The normal contents are increased from about three pints to four quarts or more. Digestion is impaired; a lavage early in the morning will bring up particles of food ingested the night before. This material lies in a line below the point of evacuation, and ferments, giving rise to gaseous formation which, in turn, dilates the weakened muscle wall, and the dilatation drags on the nerve endings, thus producing the pain. The contents of the stomach in this condition is typical. Should lavage be performed, the surprise is great at the enormous quantities of fluid that these stomachs can hold.

On emptying it, by inverting the tube, the contents form in three layers; first, a thick, frothy layer, composed chiefly of yeast ferments, one of a dark brown liquid, and one of undigested detritus, sometimes containing particles of food, and again assuming more the form of an insoluble powder in solution.

3. The third class is known as a secondary dilatation due to pyloric stenosis, contracted sphincter, cicatrices of old ulcers, or from inflammatory adhesions, often found in association with the acute gall-bladder troubles. The symptoms are very much the same as outlined in the foregoing class, but are relatively increased.

I know of no condition more common, and none more worthy of careful study and intelligent effort to cure.

In the simple atony cases, the simple tonic treatment, as has been suggested above, combined with caution regarding diet and lessened nerve expenditure, will not infrequently be followed by gratifying results. But if a physical examination reveals a largely dilated and distended stomach, the condition passes from a simple case to an exceedingly perplexing one.

As we have noted above, in atonic dilatation, there is a pathological condition in the gastric muscles, atrophy has robbed the muscle of its tonicity, and it would be foolish indeed to presume that we can restore that tone wholly by medical treatment. Let us, for a moment, consider this phase of treatment.

The capacity of the normal stomach is about three pints; the most dependent position of the stomach, after a meal, is about three inches below the pyloric opening; the contour of the greater curve is a gradual incline, which favors the emptying of the gastric contents into the duodenum, when stimulated by the contractions during digestion. This is easily accomplished in the healthy organ, because the tone of the muscle is sufficient to bring the most dependent position of the filled stomach to a point of drainage into the duodenum.

In the stomach where there is an atrophic change in the muscle fiber, the muculature of the stomach is greatly thinned, sometimes no thicker than the serous or peritoneal covering; it is incompetent to bring the greater curve to a point of duodenal drainage, even if there were no sagging of the greater curve, but the lower border of the stomach in this condition, instead of being three inches below the pyloric opening, is sometimes six, eight, or even ten inches below any possible point of evacuation or drainage. What, then, is the natural result? A portion of the meal—the upper portion—is brought up to the level of the duodenum during the active contractions of the stomach, which have been stimulated by the taking of food and by mastication; at first, these contractions are firm and good, and a part of the meal is emptied into the intestine. As digestion goes on, however, the weakened gastric muscle fails to respond to the stimulus, and each succeeding contraction becomes shallower and shallower, finally ceasing altogether. The presence of the unemptied contents sags the stomach to its lowest possible point; this is made possible, first, because the impaired muscle fibers are exhausted, and, second, the food remaining acts as a weight, carrying the lower border to the limit of its laxity; and after a time fermentation begins, by reason of the absence of the bile. The meal has been treated to the gastric ferments, but has not been passed on to be acted upon by the other juices of digestion, so that digestion, which was well begun, is interrupted, the fermentation gives rise to gas, the gas continues the process of distention, and, by dragging on the nerve endings, causes pain. There is a layer of fermenting, gas-producing material at this time, in the bottom of the stomach. What, then, could possibly be the result of medicine put into that fermenting mass? Would it not become a part of it? If it stopped the fermentation, could we hope that it would stimulate tone to that impaired stomach wall to the point of emptying itself? If we can reasonably hope to accomplish this by medicine, I can readily see a hope for these unfortunates by medicinal treatment. But, so far, in my experience I have failed to get the results, and I feel that I have found the cause of my failure.

Carcinoma of the stomach occurs in about the equal ratio in men and women. The age of onset is usually above forty-five years, is announced by a rapid loss of weight, and an acute pain in the epigastrium; the symptoms usually precede the vomiting of bloody material. The usual site of the carcinomas is at the pyloris, and, by recalling your anatomy, you will remember that there are from three to five lymphatic glands in that region, and we know that the cancerous process manifests itself either in or about the lymphatic supply of a part, or develops directly in the lymphatic area. The rapid loss of weight in a person over forty-five years, with progressive anemia and symptoms of pain in the stomach, of a boring acute nature, with or without vomiting of blood, is sufficient to warrant a suspicion of carcinoma.

A test meal is very valuable to eliminate the "guess" of your diagnosis. If you find hydrochloric acid absent, with lactic acid present in quantities of from three per cent. to six per cent., and if the microscope shows muscle fibers with blood cells and the Boas-Oppler bacilli, the case can safely be regarded as malignant.

We have come to regard carcinoma of the stomach a curable disease under certain conditions. When the test meal reveals absence of hydrochloric acid, the presence of lactic acid with blood-cells and the Boas-Oppler bacillus, but where there is no tumor definable, or the tumor, if present, is small, an exploratory operation is the thing to advise. If after opening the abdomen, the condition be found in the early stages, or even in the more advanced stages, if meta-

stasis has not occurred, much benefit and comfort, and sometimes cure, apparently, follow removal of the pylorus.

W. J. Mayo states that the average length of life after carcinoma can be diagnosed, is about 205 days. The length of life after his operation for removal of the pylorus, is from two to five years of a very comfortable existence, and not infrequently does death occur from some other cause aside from carcinoma, or the immediate results of its removal; and I feel safe in prophesying that in the next ten years, pylorectomy, or some better surgical procedure, will be the recognized treatment for carcinoma.

One thing is certain, if we would obtain the best results, we must improve our diagnosis, so that we can intelligently detect a carcinoma of the stomach before tumor formation, and if we can do this and confirm it by exploration, it is comparatively easy to convert the exploratory opening into an operative one, and do some surgery on the stomach. In these cases, as noted above, they live about 205 days, without operation after carcinoma has been diagnosed, and with operation, they live from two to five years, so that it would appear that they have nothing to lose and everything to gain.

I will not take your time here to describe the gastric contents examination; you can find it accurately described in the works on diagnosis. Suffice it to say, it is very simple.

To summarize a few of the pains we have considered in the foregoing:

The pain of ulcer gives a history of long duration, is usually in women under thirty, is frequently associated with vomiting of blood, or the passage of blood in the stools; the pain can be located by pressure, and the nervous symptoms are pronounced. The pain is almost continuous, and extends over a long period of time, is increased by taking anything acid or saccharine into the stomach, and is relieved by taking bland food, or sometimes water, during the pain occurring between meals.

In disturbances of impaired motility, the age is not so conspicuous a symptom. The pain is not so constant, there being intervals when comparative good health is enjoyed; it is dull and oppressive, more than acute. There is no history of nausea, in fact, vomiting is very hard to accomplish. The vomitus never contains blood or bloody streaks, but consists of yeasty ferments, a large amount of dark fluid, and undigested material.

In carcinoma the pain is continuous; there is a rapid loss of weight, early cachexia, vomiting of bloody discharge, presence of a tumor, and rapid decline.

Gall-bladder disease presents as many phases as a kaleidoscope, but there are certain points that serve to keep us right. The pain is of a severe colicky nature, and, as a rule, is spasmodic. It is not long ago when we were inclined to call every spasmodic pain in the epigastrium, gastralgia. I wish to say that by far the commonest cause of spasmodic pain in the epigastrium is gall-bladder disease. We have neuralgia only in the nerves exposed to trauma or to the elements; it is not rational to expect neuralgia to occur in any other locality. The pathology of neuralgia is wholly concerning the neurilemma; the outer sheath of the nerve is exposed to a low temperature, and when warmed the vasomotor apparatus is unbalanced, and a consequent hyperemia occurs which congests the membrane, making it more dense; this lessens the lumen of the nerve canal and causes pressure of the neurilla on the nerve center, and we have pain. The same operation occurs in trauma of a nerve, but this does not explain, pathologically, the occurrence of gastralgia.

I will admit the involvement of the nerves of the stomach from an extension of some perigastric or gastric inflammation but not simple neuralgia, as is commonly accepted, and I would advise a change in the nomenclature of stomach pains, and, in the future, spell gastralgias so that they are pronounced gall-bladder diseases. Then, find out just what condition exists but do not be deluded by the gastralgia idea any longer.

I have had enough surgical experience with this region, and I have seen enough of these conditions to convince me that the foregoing statement is, in the main, truth.

The majority of medical men have been taught that there can be no liver or gall-bladder disease where there has been no jaundice. They put all their clinical significance on jaundice. This is faulty; jaundice occurs in about 28 per cent. only of all cases of gall-bladder disease, and when it is present, you have an obstruction of the flow of the bile from some cause mechanical, as in the case of a gall-stone, or pathological, caused by the closure of the lumen of the common duct by inflammatory process, and that clears up only 28 per cent., or, at most, one-third of these vague stomach cases. Jaundice is not a necessary symptom of gall-stone disease. I consider the pain the most significant, and I will present it to you under head-lines, to endeavor to make it more lucid and clear.

It occurs spasmodically at first, and is of a boring, twisting character. This is produced by an extension of inflammatory condition to the lining of ducts, or by the passage of a gall-stone through the ducts. This pain is often referred to the right shoulder as a tender spot; sometimes this spot is easily covered by a silver dollar. The pain is exaggerated during digestion, since contraction of the gall-bladder occurs synchronously with the contractions of the stomach. It may completely subside and not return for many months, and many are carrying slumbering gall-stones in their gall-bladders to-day without their knowledge, but as long as they don't know it the gall-stones cannot hurt them.

In the inflammatory conditions, especially if

associated with, or caused by, the impaction of a stone in one of these ducts, there will be chills and fever, perhaps occurring so regularly that you will diagnose your case malaria. I recently saw a patient with a very prominent man. This patient gave history of acute colicky spasmodic pain in the epigastrium, followed by chills and fever quite periodically. The doctor said to me, in all seriousness, "I guess I'll give this man some quinine." He added, "His cellar is full of water," as if to carry conviction. I will venture the opinion that the quinine did not relieve the chills and fever, nor reduce the water in the man's cellar, because I am sure there was a gall-bladder disease which was responsible for all that the man had complained.

Headache, loss of weight and periodic attacks of these acute, colicky cramps, point strongly to the presence of gall-stone. If they come to operation, you may find, as I did a short time ago, the gall-bladder distended and full of black, ropy, mucobile, the ducts open and no calculi of the biliary apparatus. The lining of the gall-bladder and ducts was congested and thickened sufficiently to impede the flow of bile, but not enough to prevent its current entirely. At first thought, one would feel that operation was not indicated. But the stomach was adherent to the parietal abdominal wall by bonds of plastic exudate which had been poured out during some previous inflammatory condition, and every meal was followed by intense pain caused by the dragging on the adhesion with every contraction. It was this case, perhaps, more than any other that I have ever operated, that has convinced me of the increasing field of surgery in diseases of the stomach. No one could hope to relieve these adhesions, only to dull the sensibilities by morphine, and the danger of cultivating the habit is great, since every meal must cause pain, and the morphine could not be so frequently administered for a long period of time, without danger.

Now, about the medical treatment of these conditions after a positive diagnosis has been reached.

In looking over the newer works on materia and therapeutics, I note more conservatism expressed in the efficiency of drugs for the treatment of these diseases, and I consider it is a sign of the times. Anyone who has *seen* a gastric ulcer, with its area of dense induration and hyperemia and stasis, incident to the process, will be slow to believe that the wisest treatment would be the combination of bismuth, soda or antiseptics; the latter are most ridiculous of all, for how can you adminster an antiseptic of real value to a portion of the stomach, by giving it internally?

The logical treatment of gastric ulcer is protection against irritation, by drainage. Just as long as the food must pass that ulcerated area, just so long is it going to keep painful.

In motor disturbances of the stomach, much can be done by rest and tonic treatment, providing there is not a stenosis of the pyloris, or atrophy of the gastric muscle; and if cases applying to you with these conditions are not benefited by a thorough treatment of from four to six months, and I think it is wise to be frank with these people and tell them that they cannot hope to be benefited in less time—if, as I say, after a thorough treatment of from four to six months, which has included rest, tonic, and, perhaps, electricity, they do not get better, it is time to give surgery its opportunity.

Carcinoma is clearly a surgical condition from its very beginning, and when we get the co-operation of the conservative medical men to observe that the end of their conservatism in gastric carcinoma is always death in about two hundred days, then can we hope to have them listen to the pleadings for exploration—simple exploration. If one can look, see, handle, and know the pathology of these cases for a series, then can we, with reason, look for some definite light on the subject; until then we must be content to grope until some daring spirit essays to lead us out on the highway of treatment, illuminated by that great searchlight that should determine all efforts for relief or cure, the greatest phase of all medical science—Pathology.

All theory, speculation or experiment that has not pathology for its foundation must, and deserves to fail.

GASTRO-INTESTINAL CONDITIONS IN EPILEPSY.

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THE purposes sought in calling attention to the anatomical and functional conditions which I found in all the cases of epilepsy—six in number—in which I looked for them, is to invite additional investigations, and by other observers, along the lines suggested in this paper. Conclusions which are based upon insufficient clinical observations are, as a rule, untrustworthy, but in the present instance attention is directed more to the stomach and intestinal conditions than to conclusions suggested.

As the cases under my observation were only six in number it would be rash to say that the stomach and intestinal conditions in these will likewise be found in other cases of epilepsy, or that such conditions occupy a definite etiological relation to the disease. And, further, the six cases under observation were all genuine—idiopathic—epilepsy, hence it would be premature to say that similar conditions will obtain in other types of the disease.

The term genuine epilepsy is used to designate cases which are not caused by indiscoverable lesions; as traumatism, syphilis, or new growths, involving the central nervous system.

Authorities on epilepsy usually recognize as factors of the genuine type of the disease, first, an instability, perhaps of a special order, of the

nervous system, that has been transmitted from an ancestor or ancestors by inheritance; second, a center or centers of irritation in the organism which are capable of influencing certain brain areas in a special way. A special predisposition to epilepsy may or may not be inherited, but in any case there has been transmitted a local or general instability of the nervous system. The exact site of the center of irritation in the organism, or the nature of this, whether mechanical or toxic, is apparently of no great concern, as it may be trivial in character, and situated in almost any part of the body. The sites of irritation have been referred to the genitalia, the stomach, intestines, nose, eye, ear and to the cutaneous and mucous surfaces. The irritation may be that caused by an elongated, adherent or tight prepuce; by an irritable clitoris, vagina, uterus, tube or ovary; by intestinal irritations, toxemias, parasites or constipation, by nasal polypi-inflammations or deformities; by error of refraction and muscular dystrophies of the eye.

Most writers on epilepsy mention in a general way the association of dyspeptic troubles, and some of them attach much importance to a real or supposed associated intestinal toxemia. Various dietaries more or less conflicting in character and composition have been advised, but so far as I can ascertain there have been found no definite conditions of the digestive organs, either functional or organic.

In all the cases of epilepsy which came under my observation there was found a myasthenic stomach; the organ was dilated, flabby and displaced. The food ingested was not delivered to the intestine in due time or in proper condition. There was a stagnation of gastric food in all the cases, and at times there was found a retention of the contents with fermentation, and quite often with a production of butyric acid. In these cases the contents withdrawn with the tube were excessive in quantity and foul smelling in character. In a majority of the cases there was found an excessive production of mucus, which appeared in the wash water in large, heavy transparent masses. Starch digestion was defective in all the cases, and was totally inhibited in the majority. The age of patient was not above twenty-five years, and the disease began in early life in all; three of the cases came under the care of myself or of my son, J. W. McLaughlin, Jr., in Austin. The remainder were treated by me in Galveston.

The association of excessive mucous production with an excessive hydrochloric acidity, which occurred in two of the cases, is contrary to the accepted rule that these secretions are usually found in inverse proportions, that is, there is a hypoacidity with a hypermucous secretion. The probability that the mucous secretion in these cases is not catarrhal, but that both it and the excessive secretion of hydrochloric acid are expressions of a secretory gastric neurosis has occurred to me.

It is often quite impossible to determine which of the two disorders, that of the stomach and intestines or that of the nervous system, is primary in cases of so-called gastric neurosis. Fortunately this knowledge is not absolutely essential to correct treatment, as the two disorders, gastric and nervous, form a vicious circle and react injuriously one upon the other, so that each one must, therefore, receive proper treatment. In a somewhat extensive experience in diseases of the stomach I have quite often met with these, especially secretory and motor disorders of the stomach, in association with neurasthenia, and have found the neurasthenic symptoms to disappear *pari passu* with those of the stomach, under proper treatment.

Treatment has been local, dietetic and general. Lavage, to rid the stomach of stagnated food, particularly when it is in a condition of fermentation or is foul-smelling and putrid, always affords temporary relief, and is important in affording permanent improvement of health. Sodium bicarbonate or chloride, in the proportion of a teaspoonful to each pint of water, may be used to wash out the stomach. The washing should be continued at each seance until the wash water comes away clear, and this should be repeated daily until gastric stagnation is overcome. I have followed this cleansing lavage, in cases of fermentation, with solutions of silver nitrate 1/4,000, or moderately strong solutions of argyrol, allowing the latter to remain in the stomach five or ten minutes before withdrawing it and washing out any remaining portion with clear water.

Electricity is valuable as a means of restoring the myasthenic gastric muscles. The Faradic current is recommended, one electrode intragastrically and the other applied over the dorsal spine. Massage, cold morning baths, followed by vigorous rubbings, and properly regulated exercise, accomplish the same purpose.

Diet.—The digestive capacity in individual cases should be determined by modern methods of investigation and the information thus obtained should guide the physician in the selection of diet for epileptics. Starchy foods, for example, are badly digested and favor gastric fermentation, at least in the cases which I examined. Sweets are contraindicated during gastric fermentation, but may be moderately used when the condition is not present. Proteids are unobjectionable if used moderately, the appearance of a pathological indicanuria should be a signal that proteids are often in excess. Vegetables are unobjectionable if properly cooked. But any form of food will be harmful if eaten in excess. The digestive capacity must not be exceeded.

Strychnine, quinine, nux vomica, the bitter tonics and iron, are advised to overcome gastric myasthenia. Believing that the protective function of the liver is impaired in neurasthenic conditions arising from intestinal intoxications, I have used with apparent benefit iris versicolor, euonymus, rhubarb and the preparations of mer-

cury, to restore this function. The bromides, belladonna and preparations of zinc, may be required in the neurasthenic habit.

Results.—The results have been uniformly good. The patients under treatment are brighter and stronger; are less nervous and more cheerful. There has been no attack in over two years in one case, and over one year in another. In the other cases the attacks have been milder and less frequent.

MEDICAL PROGRESS.

SURGERY.

Comparison of the Abdominal and Vaginal Routes for the Removal of Uterine Fibroids.—Comparing the relative merits of the two routes for the removal of uterine fibroids, BYFORD (*Chic. Med. Reg.*, March, 1905) gives very clearly the advantages and disadvantages of each method. He states that generally these factors should be considered, viz., the relative danger to the patient, the possibility of completing the operation in a satisfactory manner, and the surgical training of the operator. The advantages of the abdominal route are cited as follows: the possibility of working under the direction of the sight, the short time required for performing the operation, the ability to control all hemorrhage, the possibility of conservative surgery especially in subperitoneal tumors and the increased room possible which is of decided advantage to operators of moderate experience. The disadvantages of the abdominal route are enumerated as follows: The danger of surgical shock and intestinal traumatism, and of infection of the peritoneal cavity with following intestinal paralysis or obstruction and the objection of many patients to the abdominal incision. The advantages of the vaginal route are given as follows: The insignificance of shock, the minimum of disturbance of the abdominal viscera and the comparatively localized nature of any untoward conditions that might result from possible imperfection of sepsis and manual skill.

The author gives the disadvantages of the vaginal route as follows: The impossibility of having the guidance of sight, the difficulty of securing a thoroughly disinfected field and the liability of encountering unexpected or unappreciated difficulties as hemorrhage, injury to the ureters, etc.

The author considers that the vaginal route should be selected in cases in which the tumor is of such a size as not to hinder the pulling forward of the cervix to the vulva, so as to allow the operator to secure without delay the uterine arteries on either side of the cervix as well as the middle hemorrhoidal arteries behind. By this method one is able to remove subperitoneal nitramural and submucous fibroids if the mass can be brought down into view. The abdominal route should be selected in all cases when adhesions to the neighboring viscera are present, for all large fibroids for small ones that cannot be pulled down toward the vulva and in cases in which there is a small vaginal entrance and narrow vagina.

Prevention and Reduction of Deformity in Pott's Disease.—In calling attention to the very evident fact that the treatment of Pott's disease is not as successful as it should be, C. F. EIKENBARY (*Chic. Med. Rec.*, March 3, 1905) states that no case taken in the early stage before there is any deformity, or before the deformity is marked, need recover with anything but a perfectly normal spine, so far as contour is concerned, and many cases, probably 50 per cent., who come in the later stages of the disease—that is, the sub-acute stage, when the deformity is quite marked, can have the deformity reduced one-half or nearly. In most cases the aim and expectation should be no deformity. No single line of treatment is applicable to all cases. So far as known, there is no medical treatment in any way, shape or form that has proven of the slightest benefit. The treatment is essentially mechanical, in addition to keeping up the general tone of the system all cases should wear a support, no matter whether the patient be confined to bed or not. Cases under three years, or in undersized children under four years, are best treated by being placed securely on a canvas-covered rectangular gas-pipe frame, and having a suitable number of buckles and straps to hold the child firmly. At the point opposite the kyphosis the frame should be bent, the convexity of the bend being toward the kyphosis. The child should be securely fastened until all acute symptoms subside, or, preferably, until the cure is complete. If deemed advisable, after the acute symptoms have subsided and the deformity is practically nil, plaster jackets may be applied, and if properly applied and kept on without the slightest intermission until the cure is complete, no deformity will ever result. In cases past four years of age there is no brace so universally successful as the plaster-of-Paris jacket properly applied. Every jacket should be so carefully and smoothly applied that no pressure, sore or other complication is going to arise that would necessitate its removal for a few days. The jacket should be applied as high as possible, while the patient is in the horizontal position, so as to secure as much hyperextension as possible. The important thing in whatever method is used is to produce the maximum amount of extension at the seat of disease, and having obtained such extension to apply the jacket high enough and low enough that you will lose nothing that has been gained, and to apply it so smoothly and so strong that a change under four months will be unnecessary.

Urethral Structure with False Prostatic Passage.—that the very great progress which has been made in the art of passing sounds is largely due to the teachings of Gouley cannot be doubted. He always insisted that it should be done with the utmost gentleness and his teachings are at last bearing fruit. Nevertheless, as recorded by REGINALD HARRISON (*Lancet*, February 18, 1905) it is still possible to find victims of the older methods of instrumentation who have actually had sounds passed directly through their prostates and thence into the posterior portion of the bladder. The sound usually leaves the urethra about an inch and a half before its entrance into the bladder, passes backward near to the rectum and thus breaking through prostatic capsule and retrovesical wall, establishes an absolutely new passage. These pasages not infrequently functionate moderately well, although it has been observed that many of the patients die from nephritis. The treatment should obviously be directed toward making good the old path and rendering the false passage unnecessary.

Acute Hemorrhagic Pancreatitis.—It is refreshing to find that an occasional case of acute pancreatic disease is being recognized in time to operate upon it and save the patient. T. C. LITLER HONES (*Lancet*, February 18, 1905) reports the case of a married woman, twenty-six years of age, who was admitted to the hospital after seven days of obstipation. The abdomen was distended. She vomited. The epigastrium was tender and there was a localized swelling. The pulse was 128, temperature 96.2° F. The abdomen was opened and on dividing the peritoneum, bright blood gushed out. Three pints of free fluid were in the cavity. It suggested extra-

uterine rupture. At the entrance of the lesser sac a well-marked fat necrosis was noted. The pancreas was three times its normal size, discolored, edematous and hemorrhagic. There was no bleeding at the time of operation from the pancreas. This organ was packed off and in size longitudinally. No obstruction could be found, but the examining finger seemed to enter a dilated space. This was packed with gauze. The hemorrhage was at no time severe. The packing was removed in thirty-six hours, when the discharge became clear and continuous. It was pancreatic juice. It began to digest the margin of the wound, but gradually closed without serious trouble. For three weeks after operation, no fat containing food was given. Her urine was most carefully examined and nothing in the nature of the crystals described by Cammidge could be found. Although Mayo Robson and Barling emphasize the association of this condition with gall-stones, nothing was noted in this case. Opie's well-known experiments attest Halsted's opinion that obstruction at the duodenal orifice at the gut of Wirsung might be responsible for acute pancreatitis are well known. He concluded that the necrosis of the parenchymatous cells and hemorrhage represent the primary action of the bile and that inflammatory reaction rapidly follows. In the Heaton case, the ducts were patent and the microscopical sections showed acute inflammatory changes in the gland and the areas of blood extravasation. Beaver strongly advises an early operation with free drainage as the best means of checking progressive necrosis of the pancreatic cells and says that a tense edematous condition without marked involvement of the peripancreatic tissue calls for an incision in its long axis.

Traumatic Lumbago.—By traumatic lumbago is understood a condition in which pain and stiffness in the lumbar region caused by injury persist long after the immediate and acute effect has passed away. Frank Romer (*Lancet*, February 18, 1905) states that while no pathological proof was forthcoming of the assumption that these distressing conditions are brought about by adhesions in the muscular or tendinous structure of the lumbar region, the results of operation based upon this supposition are confirmatory in nature. The history of these cases generally records some strain of the back, necessitating perhaps a few days' rest. Most of such cases go on to recovery. But occasionally one is found in which the pain does not entirely disappear. Lumbar stiffness increases so that it eventually simulates chronic lumbago. The treatment of ordinary lumbago is in these cases obviously futile because of the absolute difference in the pathology. They resemble each other only in name. An anesthetic should be given both for the prevention of pain and for the insurance of complete relaxation. The patient is placed on his back. The leg on the sound side is flexed at the knee. The thigh is flexed on the body till the knee touches the chest wall. It is then brought back to the extended position. The leg on the affected side is now put through the same movements and comparison can then be made as to the difference in resistance. Both legs are now brought up together and both knees should be kept pressed against the chest for about a minute. The legs are now brought down again flat on the bed. and the patient raised to a sitting posture. The operator places one hand firmly over the affected lumbar region, while with the other he thrusts the patient back toward the bed. The hand on the small of the back causes the part to be extended. By this procedure the lumbar portion of the column is put through flexion and extension as the patient is pressed forward and backward. There is little pain after these manipulations. The after-treatment consists in rest, massage and graduated exercise. The author reports six cases which were cured by this treatment.

Surgery of the Gall-bladder and Bile-Duct.—In no department of surgery has the American mind left its impress in a more forceful manner than in the development of the surgery of these parts. Cholecystotomy was first performed by Bobbs, of Indianapolis, in 1867. In 1878, this operation was established as a definite surgical procedure by Marion Sims and thus the way was paved for the first cholecystectomy done by Langenback in 1880. D. A. K. Steele (*Annals of Surgery*, February 19, 1905) in an address upon this department of surgery before the Chicago Surgical Society, congratulated the members upon the fact that the society had probably more than any other kindred organization contributed to the sum of our knowledge upon the subject. In speaking of the symptoms, he said that it had been shown that the formation of a stone requires several months and is invariably preceded by gastro-intestinal catarrh, constipation, flatulence, epigastric discomfort, sallowness, slight icterus, scant high-colored urine, sour stomach, tenderness over the gall-bladder, so-called bilious colic and sick headache. Gradually from this condition there may be evoluted a typical attack of gall-stone colic. Many of these cases are treated for years by medication, by diet, massage, baths, exercise, olive oil, Carlsbad and other resorts. The delay occasioned by this error often causes serious complications, peritonitis, dilatation and infection of the gall-bladder, circumscribed abscess formation, empyema and universal adhesions. These lead to the obliteration of the normal landmark and this immensely increases the difficulties of operation and add to its mortality. The condition is in nowise seriously different from that found in recurrent appendicitis. For this reason, the old dictum of three months' medical and dietetic treatment, is seen in the new light to be altogether too long, for while uncomplicated cases of cholecystitis and cholelithiasis, give practically no mortality, the same operation in cases generally exhausted and with local conditions rendered abnormal as a result of chronic inflammation and infection, the mortality is discouragingly high. The author gives the following indications taken from Waring for operation: (1) The presence of a tumor in the abdomen appears to be an abnormally distended and large gall-bladder. (2) The existence of jaundice, which is persistent, together with other signs and symptoms which point to complete destruction of the common bile duct or the common hepatic duct. (3) The recurrence of successive paroxysmal attacks of biliary colic with short intervals between the attacks and a general lowering of the health. (4) Symptoms of localized inflammation in the region of the gall-bladder, associated with biliary colic. (5) The occurrence peritonitis due to perforation of the gall-bladder.

MEDICINE.

A Case of Anchylostomiasis.—The case reported by Karshin (*Roussky Vratch*, February 25, 1905) is interesting inasmuch as, besides the principal parasite, the patient seemed to harbor also *Tænia saginata* and *Trichocephalus dispar*. The boy, eleven years of age, began some three years ago to show signs of impaired health, grew pale and very weak, complaining of gastric pain, at times vomiting, dyspnea, palpitation of the heart, dizziness, tinnitus aurium, headache, and so on. He was a playful child, who formerly spent much of his time playing in sand. He presented all the symptoms of progressive pernicious anemia, except that the great percentage of eosinophiles in the blood, namely,

41½ per cent. suggested the possible presence of intestinal parasites; appropriate medication caused the expulsion of tænia with the consequent dropping in the percentage of eosinophiles to 17.2 per cent. But as the condition of the patient did not seem to improve much (he had marked edema of the legs, heart murmurs, dilated pupils, a tender liver and subfebrile temperature), and an examination of the feces elicited the presence of an enormous number of the eggs of *Anchylostoma duodenale;* treatment was instituted (chiefly the ethereal extract of male fern and cautious doses of thymol), and the author succeeded in the course of some days in expelling 200 live worms. There ensued at once general improvement in all the symptoms, the patient recovered rapidly and remained so. It would seem that between the two theories—infection by the worm per os, or per cutem, the latter finds more favor with most of the investigators. The symptoms produced in the host are evidently due not only to mechanical causes alone, but also to the presence of some as yet unknown poison which seems to be the biological product of the parasite in the human body. Moreover, the presence of the parasite in the intestine tends to increase the number of the intestinal bacteria, thus enhancing the various putrefactive processes therein, and also deprives the host of so much nutrition, besides acting reflexly by irritating the peripheral nerve-endings. The parasite is taken up chiefly and directly from the soil, and since attention had been called to the serious consequences caused by it the number of those affected with it increased from 113 in 1897 to almost 2,000 in 1903. With their accustomed care the Germans have since the last few years required that every miner, clay worker, etc., applying for work present a certificate of never having suffered from anchylostomiasis. The author calls special attention to the fact that the child having become infected while living at Port Arthur, the army now in Manchuria, living as they do under extremely unhygienic conditions, and being constantly occupied in digging up the ground for various military purposes, are sure to become the disseminators of the disease on their return home to Russia, and urges special precautions to limit the spread of the disease.

Duodenal Ulcer.—The ulceration of the funnel-shaped area comprising the pyloric end of the stomach, the pylorus and the first portion of the duodenum has in the past fifteen years attracted very great attention. B. G. A. MOYNIHAN (*Lancet*, February 11, 1905) states that since 1900, the date of his first operation on duodenal ulcer, to September, 1904, he had operated on 51 cases. There were seven cases of perforating duodenal ulcer with five recoveries, 22 operations for duodenal ulcer associated with gastric ulcer with one death and 23 operations for duodenal ulcer alone with one death. It is well known that almost all writers remark upon the rarity of ulcer in duodenum, that this is a fallacy there can be no reasonable doubt. The author has made his observations and has established the frequency of the condition from the study of the living, whereas text-book authorities obtain their data from autopsy reports. The symptoms of duodenal ulcer in many cases are characteristic and in the writer's opinion it is a mistake to believe the oft-repeated statement that a differential diagnosis between an ulcer of the stomach and one of the duodenum is difficult, he having in most cases been able to establish it either upon the physical signs or upon the history. Ulceration is ten times more common in the first portion of the duodenum than in the second. Duodenal ulcer may occur at any age. Oppenheimer has collected the records of 15 cases of melena neonatorum resulting from ulcerated duodenum. Duodenal ulcer is said to be more common in the male than in the female. Weir has stated it as being six to one, Mayo 2.5 to one. In the author's reports there were 32 males and 19 females. The symptoms naturally are kin to those of gastric ulcer, namely hematemesis and melena neonatorum. The complications are (1) hemorrhage; (2) perforation, acute, subacute and chronic; (3) cicatricial contraction and induration, causing narrowing at the ampulla of vater and obstruction to the outflow of bile and pancreatic juice; (5) periduodenitis; (6) cancer; (7) compression of the portal vein from cicatrization of a deeply placed ulcer (French); (8) diseases of the gall-bladder or bile ducts; and (9) diseases of the pancreas. The association of diseased gall-bladder and bile ducts with pancreatic disease is interesting. In ten of the author's series there was obvious evidence of disease in the gall-bladder with or without stones. Duodenal ulcer unquestionably may predispose to the formation of stones by giving rise to peritonitis. As a result of this there is stasis of bile and perhaps infection. The two conditions best known to be necessary for the formation of concretions. The relation of pancreatic disease to duodenal ulcer has not yet received attention. It was present in three of the 51 cases. A localized chronic pancreatitis may result from a gradual deepening of the duodenal ulcer. It may further be caused or at least aggravated by the same conditions which give rise to the ulcer, viz., alcohol or syphilis.

On the Influence of Copious Water Drinking.—Notwithstanding the fact that a large number of investigations have been made on the influence of copious water drinking, yet there does not seem to be recorded any set of data from a carefully conducted series of experiments of this sort upon human subjects, having for its object the study of the course of the nitrogen, sulphate and phosphate elimination. An extensive series of experiments have now been made by P. B. HAWK (*Univ. Pa. Med. Bull.*, March, 1905) in which the subjects were placed on a constant diet, and by means of preliminary periods of sufficient length, brought to a condition of approximate nitrogen, sulphur and phosphorus equilibrium. At this point, the regular constant diet was supplemented during a period of two days by a large volume of water taken daily at stated intervals. After this the normal conditions were again maintained. Food, urine and feces were all subjected to most careful analysis. The writer concludes that water drinking causes an increased excretion of nitrogen and phosphorus by the urine. The increase in the amount of nitrogen eliminated is due primarily, to the washing out of the tissues of the urea previously formed, but which has not been removed in the normal processes, and secondarily, to a stimulation of proteid catabolism. The increase in the excretion of phosphorus is due to an increased cellular activity and the accompanying catabolism of nucleins, lecithins and other phosphorus-containing bodies. There was nothing which would lead to the inference that there was anything detrimental in the consumption of large quantities of water. The ingestion of 9,000 c.c. of water in forty-eight hours caused an increase of 2.17 grams of nitrogen during that period in the urine. The excretion of the sulphates was along similar lines.

Early Diagnosis of Cancer of the Stomach.—The special points of value which are of aid in the early recognition of malignant disease of the stomach are reviewed by M. le Dr. J. NOEVER (*Jour. Med. de Brus.*, March 2, 1905). He calls attention to the statements of Finckelnburg who in 1894 noted the increasing frequency of this affection, and to the statistics of W.

Roger Williams showing that this increase is real, and that men are more frequently affected and present visceral lesions. The early diagnosis depends upon the following points: (1) Examination of stools for blood by the Boas method. In 67 cases he was able to detect blood in 65 cases. *Method.* (*a*) Triturate part of stools with distilled water; (*b*) add to one part of mixture one-third volume of glacial acetic acid; (*c*) extract with ether; (*d*) stir etherial extract with a mixture of 30 drops of oil of turpentine and 10 drops of tincture of guaiac. The blue color resulting is made more distinct by adding distilled water and chloroform. (2) Examination of gastric fluid. Hydrochloric acid is present in 11 to 13 per cent. of cases and is more frequent in cases of carcinoma of the pylorus than of the lesser curvature. Hyperacidity also is present in cases of carcinoma with an old ulcer, or following nervous hyperacidity. Lactic acid is not pathognomic of carcinoma, but it is not produced in so great a quantity in other affections, nor is stasis necesary for its presence. In cases of stasis fasting with absence of lactic acid and presence of hydrochloric, the difference between ulcer and carcinoma is distinguished as follows: The gastric juice should be examined three times the same day. The first fasting; the second after a test meal of egg albumin; the third after a test meal of beefsteak. In cases of ulcer he finds hydrochloric acid in all three trials. The absence or presence of a small quantity of hydrochloric acid in one or several of the three examinations indicates mucous catarrh of the stomach. Mucous catarrh with other symptoms is in favor of carcinoma. The transudation of albumin into the stomach is determined by allowing no albuminous food after midday. In the evening the stomach is washed with water. Next morning, while fasting, the stomach is washed with 400 c.c. of normal salt solution. If the liquid contains more than 20 mg. of nitrogen, or more than 1/10 to 1/2 in 1,000 albumin, the presumption is in favor of carcinoma. (4) The bacillus of Boas-Oppler is in itself not diagnostic but the presence of this bacillus on small brownish coagula mixed with chyme after certain test meals in the presence of hydrochloric acid points toward probable carcinoma. Albumoses are found in the urine by the biuret reaction in two-thirds of the cases of carcinoma but are also demonstraable in the urine of cases of appendicitis, abscess of groin, empyema, meningitis and other purulent processes, but is distinguished from these latter by the presence of other symptoms. It has been shown that the lack of digestion leucocytosis which was supposed to occur only in carcinoma may be present in simple gastric catarrh. The author considers that sometimes an early diagnosis of cancer can be made, but for the most part we remain ignorant of its malignancy and its extension. He does not agree with some authorities that an early diagnosis is impossible without exploration, yet considers that an early exploratory laparotomy should be done when a sufficient number of symptoms point to beginning carcinoma.

Extensive Carcinoma of Tongue and Neck, Presenting Points Special Interest.—Dr. William Seaman Bainbridge (Am. Med., March 25, 1905) reports the case of a man of forty-nine, an inveterate smoker for twenty years, who was first aware of his trouble in May, 1902, when a small pimple appeared half-way back on the dorsum of the left half of the tongue. This would disappear under local applications, with discontinuance of smoking, only to return when smoking was resumed. The pimple finally persisted, growing rapidly, and in December, 1903, the author took charge of the case. The patient was somewhat cachectic and had lost considerable flesh and strength. The anterior third of the tongue, except the tip, was involved by a hard, crater-like ulcer. No glands were palpable at this time. Microscopic examination confirmed the diagnosis of vascular epithelioma. On March 11, 1904, the patient was operated upon. The first incision extended from the tip of the left mastoid process to that of the right, and below as far as the thyroid cartilage. The second incision extended along the anterior border of the left sternocleidomastoid muscle to within an inch of the clavicle. The two lingual arteries were tied in situ, the submaxillary and the sublingual glands on either side removed, and the salivary ducts extirpated clear into the mouth. Many cancerous glands were removed from the region of the tonsil on either side. The lymphatic glands with their vessels were removed en masse as far as possible, and with them the connective tissue and fascia of all the contiguous muscles. The wound was completely closed except for a small drain at the lower part. The mouth was next forced open and the growth on the tongue cut down with Paquelin cautery. Whitehead's shellac being applied as a coating to the cauterized surface. The wound healed by primary union. On March 28 the left corner of the mouth was incised to the edge of the masseter muscle, the mouth forced open, the tongue drawn out and elliptic incision made on the floor of the mouth, encircling the tongue, this organ being completely removed. A bridge of tissue was made across the fauces in front of the epiglottis by a small flap of mucous membrane dissected away from the right glosso-epiglottic fold. The wound in the floor of the mouth was partially closed by chromicized catgut, the wound in the cheek closed in the usual way and shellac applied over each. Within a few hours the patient could swallow fluids, and on April 21 was discharged cured. Since that time he has steadily gained in flesh, is apparently perfectly well, is able to masticate even solid food, to taste, to talk intelligibly, and even to sing.

Nature of Scleroderma.—L. Huismans (*Münch. Med. Woch.*, March 7, 1905) draws attention to the fact that in most cases of scleroderma there are symptoms pointing to involvement of some or all of the ductless of glands. Thus in his own case, there was amenorrhea (ovaries), pigmentation and dryness of the skin with vomiting and general lassitude (adrenals), atrophy of the thyroid, falling out of the hair, absence of perspiration (thyroid) and dystrophy with weakness of the muscles (hypophysis). The disease is certainly not a pure neurosis but is probably the result of an infection, secondary to a functional disturbance of the sympathetic nerve following trauma, pregnancy, etc. If the functional disturbance is slight, complete recovery may follow, if severe, a degenerative inflammation will develop in the ductless glands and skin. The localization of the disease is solely due to the peculiar distribution of the sympathetic nerve.

Chemistry of Chronic Nephritis.—Chemical examination of the blood, kidneys and various other organs, particularly with reference to the chlorides, led T. Rumpf (*Münch. med. Woch.*, February 28, 1905) to conclude as follows: In health, the amount of chloride of sodium in the kidneys, generally exceeds that in the blood and the other organs. In a large number of cases of nephritis, the difference is still more marked. but exceptions are common, especially in the early stages. The amount of salt in the blood and tissues in nephritis is usually above normal, yet there are many cases where the opposite holds, despite the presence of edema, albuminuric retinitis and uremia. The percentage of chlorides found in the pericardial, pleural

and peritoneal fluids of nephritis is not constant. Since higher figures were often obtained with the transudates of other conditions, it is improper to conclude that transudation in nephritis is a result of retention of salt. There can be no question, however, that there is a decided retention in the kidney of chlorides, sodium, potassium, calcium and magnesium. In the early stages of nephritis the blood and tissues contain less water and more solid residue, but in the later stages this is no longer constant.

Roentgen Rays in Leucemia.—A typical case of myelogenous leucemia was subjected by K. Schleip and W. Hildebrandt (*Münch. med. Woch.*, February 28, 1905) to a thorough course of treatment with the Roentgen rays. All in all, the spleen was exposed 648 minutes, and the bone-marrow of the sterum and femur, 130 minutes, over a period of nearly three months. The following changes were observed during this period. The fever, which before treatment was very slight and absent altogether on some days, became more pronounced and of decidedly intermittent type; despite this the patient increased in weight three kilograms. The number of leucocytes increased from 280,000 to 350,000 until the duration of the exposure had reached 500 minutes; after this there was a rather sudden drop to 53,000. Each single exposure diminished the number, sometimes as much as 100,000, but usually there was a secondary rise soon after. There can be no doubt that the effect of the rays is a specific one upon the white cells, since the reds never fluctuated to such an extent. It seems that not only the neutrophiles, but all the different types of leucocytes found in leucemic blood, are affected. Degeneration, cell-division, etc., were never seen so that it is not probable that the cells are actually destroyed, but that their distribution within the body is altered. A final disintegration does, however, occur after the cells have once accumulated within the internal organs. The objective symptoms did not improve, and the spleen retained its original size. It is impossible to say at this date, if the improvement brought about by the Roentgen rays is parmanent or only transient, but it is unquestionable that prolonged exposures (600 minutes and over) are followed by pronounced improvement.

The Tuberculous Predisposition.—Most of the investigators of and writers on tuberculosis incline to the view that the predisposition to tuberculosis is of greater importance in the etiology of the disease than the infection with the bacillus; for if it were otherwise we should have a much greater number of those sick with the disease than there are at present; according to Naegeli's statistics, almost every human being carries within him the bacillus by the time he gets to be eighteen years old. On the other hand, it is assumed by Kossel, Weber and Unterberger (*Prakt. Vrach.*, January 8, 1905) that there exists a certain gradation in the degrees of virulence of the infectious principle. The latent and the lethal cases of tuberculous infection differ from each other not by the nature of the infection, but simply by its degree. The individual predispositon, as well as the excitng causes are of an inconstant and changeable nature. In accordance with the relation between these two, we get the tuberculous infection in a light, or serious form, or the attacked person may show no clinical signs of the infection at all. The bacilli expectorated with the sputum contain in the majority of cases infectious spores, which may possibly be of saprophytic nature. It is the hereditary predisposition that plays the most important rôle in the etiology of the disease. As based on these postulates phthisiophobia is not justifiable and should be vigorously combated, and it becomes evident that all our efforts should be directed toward the creation of such sanitary and economic conditions by the aid of legislative measures as to minimize any possible tuberculous predisposition in the family. The author thinks that the time has at last arrived when the treatment of tuberculosis through the destruction of the bacilli is no longer feasible, and that hygienic and dietetic measures are of much greater importance.

Diphtheria Infection in Minnesota.—F. F. Wesbrook (*Journal A. M. A.*, March 25), describes the methods of handling diphtheria epidemics in that state. The principal points insisted on are the needs of thorough laboratory examinations, repeated frequently if necessary where suspicious bacilli are found, isolation of cases and of hitherto unaffected individuals with simple sore throat and prompt executive action based on laboratory findings and initiated by one of the laboratory experts. After the system is well started, competent local medical authorities can be relied on, if sufficiently impressed with its importance. The experience in Minnesota has shown that this is perfectly practicable under most varying conditions, and this is proved by the history of the management of epidemics given in the paper. The experience of Minnesota seems to point to the conclusion that diphtheria infection is usually transmitted by almost direct exchange of the flora of the nose and throat. In institutional and school life the more independent the individual and the easier the individual isolation, the less is the diphtheria infection and the easier is its eradication.

THERAPEUTICS.

The Use of Atropine in Puerperal Fever.—In spite of its well-known property of putting to rest plain muscle, atropine has hitherto played no important rôle in gynecology, according to Dr. Drenkhahn (*Therap. Monatsheft.*, February, 1905). The author treated successfully two cases of puerperal septicemia with atropine. The first case received in the course of nine days .06 grams of atropine, about .006 grams daily, that is about double the maximal daily dose. The second case received likewise large doses. The author defends his practice upon the following observations and conclusions: Puerperal fever is, above all, a wound-infection of the uterus with a pure tissue-mycosis. With complete rest of the uterus and neighboring organs it remains a tissue-mycosis which heals spontaneously without douching or other manipulations. Atropine is the ideal drug for producing rest of the uterus. Contractions of the uterus lead to toxemia and bacteremia. The bacteria circulating in the blood and lymph streams may lead to tissue mycosis in other organs. If the latter have already been infected, atropine still favorably influences the course of the uterine disease, and may even at times arrest the progress of the toxemia by inhibiting the absorption of the toxic material from the extensive surface of the uterus. It has no effect upon the secondary tissue mycoses. If menstrual colic be, according to Theilhaber, the result of a spasm of the circular muscle of the inner os, then atropine would be indicated for the relief of pain. One should not be afraid to give relatively large doses of atropine. There is no danger of producing uterine hemorrhage during the first few days following delivery. Frequently one mg. has but slight effect. Prolonged atropinization of the uterus has no effect on involvement. The only disadvantages that sometimes accompany the use of atropine in puerperal patients are disturbance of accommodation and vesical paralysis.

Clinical Notes on Digalen.—Some time ago Cloetta introduced a new soluble modification of digitoxin, to which he applied the name digalen. In a recent article K. KOTTMANN (*Zeitsch. f. klin. Med.*, Vol. 56, Nos. 1 and 2) gives an account of his clinical experience with this drug. Injected subcutaneously in doses of 0.25 to 0.3 milligrams two or three times daily a prompt digitalis action is generally obtained within twenty-four hours. Owing to its ready solubility there is very little danger of a cumulative action and the subcutaneous application avoids gastro-intestinal disturbances. The only disadvantage is a local reaction which sets in within half an hour and may persist over night. It generally shows itself in moderate pain and some swelling, but fever was seen in only two cases of Basedow's disease. If an immediate result is desired, the drug may be injected directly into the vein, preferably at the bend of the elbow. For this purpose the arm is constricted with a rubber bandage and the needle then introduced into the vein which is steadied with the fingers. As soon as a column of blood rises in the syringe, the bandage is loosened and the solution injected very slowly. After doses of 1.5 to 3 milligrams a rise of blood-pressure was observed in two to five minutes; it reached its maximum in one and one-half hours and persisted for twenty-four hours. The frequency of the pulse was influenced but little, but diuresis was marked. Intravenous injections of digalen are indicated especially in acute cardiac weakness, cardiac asthma, and in the imminent collapse of typhoid, pneumonia and other acute diseases. For chronic endocarditis, on the other hand, the subcutaneous application is preferable. Great care should be exercised to avoid intoxication, since this cannot be combated with any known remedy.

Food Preservatives.—V. C. VAUGHN (*Journal A. M. A.*, March 11) states that a true food preservative must keep the substance to which it is added in a wholesome condition so that it can be consumed without impairment of health. It must be a real preservative, keeping the food in a wholesome condition and not merely preserving the appearance of freshness while permitting bacterial changes to continue. It must not materially impair any of the digestive processes even in the largest quantities used, and should not be a cell poison, or if such to any extent, it must be added to foods only by persons qualified by special training and officially authorized. Foods containing these substances must be plainly labeled and the kind and amount of the preservative used must be made known, not only to the buyer, but to each consumer. A cell poison is defined as an agent that destroys or impairs cell functions by its chemical action.

PATHOLOGY AND BACTERIOLOGY.

Physiological Mechanism of Natural Immunity.—It has been found by R. TURRÓ and A. PI Y SUNER (*Jour. de Physiol.*, January 15, 1905) that the injection of large doses of saline solution into rabbits increases their resistance to the infections of malignant edema and streptococcus. This effect is attributed to the fact that the saline solution dissolves a large amount of alexines out of the protoplasm of the cells, and thus adds it to the bodily fluids, thus increasing their bactericidal power. This conclusion is supported by the observation that the splenic or renal pulp, if macerated with salt water acquires a bacteriolytic energy which is greater than if the zymotic principles had not been dissolved out. The guinea-pig does not behave toward the virus of charbon like a culture tube; it opposes certain resistances to the proliferation of the microbe, which are, however, feeble. This natural resistance increases in the following order: sheep, cow, man and dog. The degree of immunity depends principally upon the bacteriolytic power of the cells and humors, and this power is directly in proportion to the degree of solubility of the active substances. If a tissue contains enzymes that are but slightly soluble, its defensive power is diminished. If it is easily coagulated the defensive power is destroyed and the organism is helpless. This explains how the procedure of artificially augmenting the solubility of the active bacteriolytic substances in the rabbit by means of saline solution, gives this animal for the time being a defence against charbon which is equal to that of the dog. To sum up, the organism is infected by virtue of the coagulability of its plasmas, and resists infection by virtue of their solubility.

The Agglutination of the Streptococcus by the Blood of Scarlatinal Patients.—That this actually occurs is positively shown by the experiments of MM. DETAT et BOURCART (*Rev. Mens. des Mal de L'Enfance*, March, 1905). The phenomenon, however, is variable and inconstant. Normal serum as well as the serum obtained from infections other than these of scarlatina, can also agglutinate the streptococci isolated from the blood of cases of scarlatina, and to an equal degree. Analogous results were obtained by using streptococci obtained from patients suffering from other diseases. These researches are admitted by the authors as having no practical application in diagnosis.

The Presence of Soaps in the Organism in Certain Pathological Conditions.—That soaps are formed in the cells as precursors of calcareous degeneration, has been revealed by the researches of O. KLOTZ (*Am. Jour. Physiol.*, February, 1905). The earliest change in cells, which later undergo calcareous degeneration, is one of cloudy swelling or coagulation necrosis. Following this, fatty changes are noticeable in the cells, and, now, by means of proper reagents, soaps with potassium, sodium, and presumably ammonium bases, can be detected. Such soaps and albumins form a combination which is insoluble in water or salt solution. Soaps and fatty acids have an affinity for the calcium salts in solution in the body-fluids, and form with them an insoluble compound. Later, judging from the fact that phosphate and carbonate of lime are formed, and the deposits give no reaction for fats, the fatty acid moiety of the calcium soap is replaced by the more powerful carbonic and phosphoric acids.

PEDIATRICS.

Conditions Mistaken for Meningitis.—A report of a number of cases of simulated meningitis is made by E. P. BAUMANN (*Brit. Jour. of Child. Dis.*, February, 1905). They include a case of typhoid fever believed to be one of typical tuberculous meningitis and demonstrated as such to students; a case of lobar pneumonia in which the tache cérébrale was marked; a case of bronchopneumonia with extreme head retraction, michal rigidity, strabismus and Kernig's sign; a case of influenza, with head retraction, rigidity of both legs, Kernig's sign, tache cérébrale, increased tendon reflexes and strabismus; and cases of mastoid disease, middle-ear disease, sarcoma of the brain, renal disease, and gastro-intestinal disturbance. Other conditions that sometimes closely ape meningitis are the hydrencephaloid condition of infants suffering from acute gastro-enteritis, roundworms, trichinosis, abscess of the brain, hysteria, retropharyngeal abscess, tonsillitis, teething, the exanthemata, particularly scarlet fever; and last of all, cases catalogued in hospital records as

cases of "pseudomeningitis," in which all the symptoms of cerebral irritation are present, and every possible cause having been excluded, a diagnosis of meningitis is arrived at,—then, for some unknown reason, the temperature falls, and the child recovers completely.

The Dangers of the Use of General Anesthetics in Operations for Adenoids.—A discussion of the regretable consequences that may follow the employment of anesthetics in general and bromide of ethyl in particular in these operations, is made by S. DE MENDOZA (*Arch. de Méd. et de Chir. Spéc.*, January, 1905). No one should be exposed to the danger of death for an operation which should not last more than fifteen seconds, and in which the pain is a negligible quantity. The dangers from ethyl bromide are as real as those from chloroform. Those who look upon anesthesia for simple ablation of adenoid vegetations as a necessary adjunct to the mise en scène, should remember that, as Dastre has said, "Anesthesia is nothing else than a limited poisoning, the first step in a general intoxication; the mortal dose is far from the useful one, but frequently, it may be near; occasionally the road is on the edge of a precipice." If one is determined to use an anesthetic, it is a crime to make the family of the patient an innocent accomplice by assuring them that the anesthetic is not accompanied by any danger whatsoever.

Weaning.—An extract on this subject from Prof. A. PINARD'S book in the care of the young child, is published in *Rev. Prat. d'Obstet., et de Pediat.*, December, 1904). The child should be weaned when at least a year old. If the child is thriving and has already shown evidence of digesting cow's milk, it may be weaned at the tenth month, provided that this does not coincide with the warm months. Weaning should not occur either immediately before or after the warm months; hence it should not occur in May, June, July, August or September. Prolonged lactation is bad, resulting in delayed dentition and maldevelopment of the bones. Gradual weaning should be practised. During the first year the infant should receive nothing but milk. The addition of soups, legumes, wine, etc., to its diet is to expose it to the danger of rickets. At the period of weaning the mother should expose herself to fatigue as little as possible, the breasts should be included in a binder with cotton and may be gently rubbed, morning and evening, with warm sweet almond oil. The use of purgatives is not indispensable. The mother should diminish the quantity of fluids in her diet. During the second year, until the appearance of the twentieth tooth, the best nourishment for the child is found in milk, bread and eggs. Under bread is included bread in all its forms, as well as the cereals. Exceptionally, toward the end of the second year there may be given in small quantity some purée of potato. The proprietary cereal preparations are to be avoided. The food should be liquid or semi-liquid at first. The fundamental food is milk. The quantity of the latter to be taken by a child one year old is about a quart. During the second year this quantity will hardly be exceeded. Overfeeding should be avoided. Insufficient nourishment is more frequently the result of over- rather than under-alimentation. In the beginning, a simple gruel should be given, at first once, and later, twice daily. At first only sugar and salt should be added, but later a little butter may be added in addition. In due time egg may be given. One should begin by giving the yolk only, mixed with the milk or gruel. Later the entire egg should be used. A frequent result of the addition of eggs to the diet is constipation. Until the twentieth tooth has been cut, it is necessary to closely watch the child's diet during the hot months.

Infectivity and Management of Scarlet Fever.—A good deal has recently been written on the pros and cons of desquamation as a factor in determining positively the infectiousness of a case of scarlet fever. Mallory, of Boston, has presented indisputable evidence of the existence of certain forms of protozoan-like bodies capable of segmentation and in many ways resembling the malarial organisms which have been found in the skin and in the occasional vesicles which form under certain conditions in the surface of skins of persons suffering from scarlet fever. W. T. GORDON PUGH (*Lancet*, February 4, 1905) concludes as a result of his investigations that the evidence in favor of the belief that infectivity does not lie in the desquamating cuticle, but in the throat and nasal cavities. In scarlet fever, therefore, as in diphtheria, it must be impossible, he asserts, to ascertain definitely by clinical means when the patient has been freed from infection. It must not be assumed, however, that prolonged infectivity is the rule, it being probable that the majority of patients are free from infection at the end of the minimum periods of isolation. It would seem impossible to discover by clinical means the minority who retain infection longer and difficult even to differentiate those by whom transmission of infection is likely. The impression derived from experience has been that such transmission is likely to occur from those who suffer from rhinitis at the time of their discharge or who have suffered from this complication during the period of their isolation. A nasal discharge then, while not necessarily to be looked upon as giving evidence that the patient continues to be infectious is to be viewed with suspicion, for if the source of contagion still happens to continue in the secretion, it will certainly act as a vehicle for distribution should the case be allowed to pass out.

PRESCRIPTION HINTS.

Urticaria in Children.—M. DAUCHEZ recommends in the (*Jour. Med. de Brux*, March 9, 1905) in the treatment of urticaria in children the following treatment: (1) Give to the child, during two or three successive days, as a laxative, one or two teaspoonfuls of the following mixture:

℞ Magnesium sulphate.....
Sulphur sublimate.....
Bitartrate of potassium.
White honey..... } .....aa gr. v

(2) Restrict the child exclusively to a milk diet, and later omit the use of fish and fruits, especially of the fresh variety. (3) Immerse in a gelatine bath (100 to 200 gr.) for twenty, thirty or forty minutes, avoid wiping and wait two hours at least before applying, preferably in the evening, by a pencil brush the following liniment:

℞ Chloroform pure.....gr. iv
Tincture of aconiti.....gr. vi
Oil of sweet almonds.....gr. xc

M. and stir well. For external use.

(4) In case of irritation at night, apply warm solutions of opium or the decoction of tobacco, followed abundantly by the use of the following powder:

℞ Talc (finely pulverized)..
Oxide of zinc.....
Starch (chemically pure) } .....aa

The above treatment is supplemented advantageously by the internal use of some slightly alkaline water (Vals or Vichy St. Yorre) pure or mixed with milk.

To prevent the offensive return of the urticaria, continue the use of laxatives, each week; omit the use of preserves, pork, shellfish, salt fish, especially in summer, strawberries, etc. Avoid carefully overfeeding.

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Subscription Price, including postage in U. S. and Canada.

Per Annum in Advance	$4.00
Single Copies	.10
With the American Journal of the Medical Sciences, Per Annum . .	8.00

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SATURDAY, APRIL 15, 1905.

MEDICAL ADVERTISING AND THE DAILY PRESS.

The counsel for the Medical Society of the County of New York, Champe S. Andrews, Esq., has done a very laudable thing in giving due publicity to his article read before that society on "A Century's Criminal Alliance between Quacks and Some Newspapers." Any one who knows anything about the nefarious trade of the quack and how he succeeds in working on the fears of his victims, often, indeed, groundlessly, in order to secure what is so frequently the hard-earned savings of a lifetime, will appreciate the sociological importance of Mr. Andrews' work.

There seems to be no doubt that he has struck the keynote of the whole case in laying the blame directly for the success of modern quackery upon the rapacity of the advertising department of many newspapers. Ninety-nine per cent. of the victims of quacks are attracted to these men as the result of reading newspaper advertisements. Not only are the victims attracted from the cities, but also from distant parts of the country.

It seems idle for the newspapers to claim that they are guiltless in the matter. Some of the contracts made with quacks show that they charge practically double the ordinary rates of advertising to these men confident that owing to the objectionable nature of the advertising material and the fact that they are sharing in the profits of the nefarious work, they will obtain their price. In some of the cases of quacks recently condemned for fraud and extortion in New York City, the advertising contracts with New York papers ran up to many thousands of dollars a year. If these unfortunate evidences of lack of the true ethical spirit were on the decrease, the present condition would not be so pitiable. As a matter of fact, however, there is more medical advertising and it is of more reprehensible character now than ever before in the history of the modern newspaper. While many respectable papers refuse to accept medical advertisements of any kind, and this is indeed the only proper position to occupy in the matter, others in their most widely circulated editions, publish more medical than of almost any other class of advertising.

Perhaps the saddest feature of all this unfortunate business, is the fact that the newspapers that are most ardent in their protestations of interest in the poor and of persistent effort to save the people from impositions of various kinds, are the most flagrant violators of the simple code of ethics which, if effectively maintained, would at once put an end to a whole mass of impositions and fraud and deceit mainly affecting the poorer classes. If after the present exposure, for it can be considered nothing less than this, by any one who reads without prejudice Mr. Andrews' arraignment of the newspapers, then legal remedies must be secured or such as are at present in existence must be enforced. There is no doubt at all that with regard to many of these advertisements the present laws forbidding the passage through the mail of printed matter evidently intended to be an auxiliary of fraud, might very well be enforced. If the advertisements of "get rich quick" concerns are not to be admitted to the mails, then surely the advertisements of the "get well quick" concerns might very well be excluded for similar reasons.

If this cannot be done, then Mr. Andrews' suggestion that State legislation shall be obtained, seems to be next in order. At least one State has furnished a valuable precedent in this matter. As the result of properly directed efforts on the part of the State Medical Society of Michigan, a law has recently been passed to prohibit the publication of the virtues of patent and other simple and compound medicines in the State of

Michigan in language of immoral tendency or of ambiguous character. This law expressly forbids, for instance, the advertising of drugs of any kind for private diseases, for the cure of chronic female complaints or compounds that are designed to prevent conception, or produce miscarriage, or abortion. Besides this a special act forbids the advertisement of anything having reference to the production of criminal abortion. These laws indeed might very well be imitated by other States to the great benefit to the morals of the community and to the good riddance of a class of persons eminently undesirable in their influence in their present occupation.

Unfortunately there is an impression abroad that the members of the medical profession are engaged in this work of preventing the advertisement of quack remedies, mainly because it is a business proposition to them, as if indeed these advertisements did not rather, by exciting the morbid feelings, bring an added number of clients even to regular practitioners. On account of this unfortunate impression, however, there must, in most States, be a preliminary period of education during which physicians must use every effort to make it clear that the proper regulation of medical advertising will result in benefit to the community at large rather than to the physician and will at the same time eradicate from our newspapers one of their most objectionable features.

PROPHYLAXIS AND TREATMENT OF INTESTINAL AMEBIASIS (AMEBIC DYSENTERY) IN THE TROPICS.

INTESTINAL amebiasis (amebic dysentery) is the most important disease of the Philippine Islands. It causes more disability and does more to cripple enterprise there than all the other infectious diseases combined. Heretofore a rational prophylaxis and treatment has been impossible, as knowledge concerning the exact rôle of the ameba in the disease and their distribution in nature has been wanting. The methods of cultivating amebas, fully described by Musgrave and Clegg,[1] have now supplied this fundamental knowledge.

According to Musgrave,[2] who has done much important work on amebiasis, all ages, classes, and races are attacked. Children are less susceptible to the disease than adults and are more amenable to treatment. Recently arrived Caucasians are the most liable to the disease. Natural immunity apparently plays an important rôle in determining infection, as many foreigners who have been there for years, have taken no precautions, but have not contracted the disease. This immunity probably depends on many conditions and unfortunately is often transient.

Theoretically, amebic dysentery is a preventable disease. The ideal prophylaxis is to avoid taking anything into the alimentary tract that has not been sterilized by heat. This, however, is not always practicable, is always inconvenient, and is often unnecessary. The following statements suggest the main lines of practicable prophylaxis suitable for the tropics in general.

(*a*) Water: Practically all of the surface water of the Philippine Islands is infected. Cistern water is especially dangerous. Pathogenic amebas have repeatedly been isolated from the city water of Manila. For drinking purposes, distilled water and carbonated and imported waters are the safest. The distilled water, however, is often contaminated by improper handling, either before or after purchasing, and some of it on the market has never been distilled. The carbonated and imported waters, also, are occasionally contaminated and sometimes fraudulent.

For the preparation of food and the washing of dishes, unboiled tap-water should never be used. Every kitchen should be provided with a large hot-water tank, which should be the only source of water for such purposes. For the bath, tap-water is satisfactory, but its entrance or introduction into the rectum or vagina should be carefully avoided. Much of the ice-cream of commerce, especially the "sorbette" sold on the streets, contains encysted amebas, and in this stage the parasites are most dangerous.

(*b*) Vegetables and Fruits: The surface of fruit and uncooked vegetables is probably one of the most fruitful sources of infection. Yet many people who are quite careful about drinking-water, eat these articles without special preparation, except, at most, the rinsing of them in distilled water. To test the efficiency of such cleansing, a head of lettuce, one of the most frequently infected vegetables, was washed four times in distilled water, each washing being more thorough than that given by the average housewife, and the wash-waters then examined. Amebas were cultivated from all four wash-waters. These cultures proved pathogenic to monkeys.

1 Bulletin No. 18, Government Laboratories, Manila, Jour. of Infectious Diseases, 1905, II, No. 2.
2 Bulletin No. 18, Government Laboratories and Jour. Am. Med. Ass'n., 1905, April 8.

Such articles of diet can be rendered harmless by dipping them for a few seconds in boiling water. Few fruits and vegetables are materially damaged by such scalding if they are previously rendered ice-cold by being placed on ice.

(*c*) Soil: This is the natural habitat of amebas. Especial care should be taken of the cleanliness of the hands.

(*d*) Personal Factors: The normal acidity of the stomach is probably one of the preventives of amebiasis, but gastric derangements in warm countries are frequent. Diarrhea, constipation, abnormal conditions in the mouth, and indigestion predispose to the disease. Consequently, great care should be taken to keep the digestive system in good condition. To avoid amebiasis a carefully planned personal hygiene of living should be followed. It is to daily lapses in this hygiene rather than to the general plan of living that infection is generally traceable.

(*e*) Public Factors: Public control of cases is neither necessary nor desirable, but regulations requiring the report of cases would be of value. Soldiers, on coming to this country, are carefully instructed how to avoid the disease. Statistics show that amebic dysentery is only one-tenth as common among them as among civil employees. Provision for the proper instruction of those in civil life would be amply repaid by increased efficiency.

Any routine treatment of the disease is unsatisfactory. Each case must be studied by itself, and the mode of infection, the duration of the disease, and the location of the lesion must be taken into account. A careful record of weight should be kept to determine the success of the treatment.

Acute manifestations are rare early in the disease, but are frequent as exacerbations. They should be treated like acute colitis from other causes: the patient is put to bed, kept perfectly quiet, and given a liquid diet. Pain may be controlled by local applications, opium, cathartics, and cold or sedative enemas.

In the absence of acute manifestations, less severe measures are used. The patient is not confined to bed, and takes gentle exercise. Attempts are made to build up his general health. The following suggests the usual general line of treatment:

(*a*) Diet: The appetite and digestion are often good, notwithstanding extensive ulceration of the intestines. A limited and selected diet should be used in cases in which the stomach and intestines are deranged or the rectum very irritable. In the ordinary type of case, however, a liberal diet is beneficial, irritating and fermentable foods only being avoided. If the cecum is involved, the patient should be put on a liquid diet.

(*b*) Change of Climate: While not a specific, this is valuable, especially in old, emaciated cases. Local treatment, however, must be kept up. If possible, the patient should be given a letter to a physician in the place to which he goes, explaining the nature of his disease.

(*c*) Drugs: No drug by mouth is specific. Bismuth may be useful, harmless, or harmful, according to the way it is used. It impregnates the edges of the ulcers and prevents the action of local remedies. Salines should be used only as active cathartics. Mineral acids are of most value if given in connection with pepsin. Strychnine stimulates the intestine and must be used with care. Quinine is valueless by mouth. Even when malaria is a complication it is best given as an enema.

(*d*) Local Treatment: Enemas of benzoyl-acetyl-peroxide, succinic peroxide, hydrogen peroxide, and silver nitrate have been used. The quinine enema is the most satisfactory. The proper strength of this varies from 1 to 1,500 to 1 to 750. Hydrochloric acid is a better vehicle than sodium chloride. The latter has been shown to cause antiperistalsis and should be avoided, especially where nausea is a symptom. Injections should be given from one to three times daily and the quality of fluid used should be the largest that can be retained from five to fifteen minutes. The enema should be approximate of body temperature. If too hot or too cold it causes encystment of the amebas.

Cold injections, however, have two advantages. After encystment the parasites are flushed from the bowel with greater ease. Tuttle has recently reported good results in amebic dysentery by the frequent administration of simple ice water enemas. Furthermore, although the introduction of an ice-cold enema is often quite painful, it is frequently followed by a rare sense of comfort. Where other methods fail, a tolerance for the quinine injection may sometimes be secured by rendering it ice-cold or by having it preceded by an ice-cold simple enema. Musgrave recently tried the cold quinine injections on twenty old and very resistant cases. The results, while encouraging, have not been universally satisfactory.

The injecting apparatus consists of a glass pressure bottle, connected with five or six feet of soft rubber tubing, a valve stopcock, and a

rectal tube 100 cm. long and from 10 to 15 mm. in diameter. The end of the rectal tube contains a single round hole and is slightly contracted and hardened. Two openings are not so satisfactory, as buckling of the tube is not so easily detected.

In giving the enema, the patient is put either in the Sims position with hips elevated, or in the knee-chest position, and, if possible, the foot of the bed is elevated 12 to 18 inches. The tube and anus are well lubricated and the tube freed from air. The end of the tube is introduced beyond the sphincter, the flow turned on gently and controlled by the finger, after which the tube is introduced 40 to 100 cm. and the flow increased. One to three liters, and in some cases four liters, may be given. When all the fluid is in, the position of the patient is changed so that the fluid may be retained a longer time and reach all parts of the colon.

To relieve bowel spasm, occurring usually during the entrance of the fluid, the rate of flow and the position of the patient are varied. If the bowel is very irritable, a preliminary enema containing a half grain of morphine may be given, half an hour before the quinine enema. A preliminary simple enema is often useful as a routine. An excessively irritable anus may be relieved by a cocaine suppository. This, however, sometimes interferes seriously with the action of the sphincter during the injection. After each injection the exposed parts should be washed with soap and water and an antiseptic solution.

THE RELATION BETWEEN THE FATTED CALF AND THE PRODIGAL SON.

THERE is a new Richmond in the field and the "Ministerial Alliance," of Toledo, seems again to be up and doing. This in itself is nothing new, as the clerical finger is very apt to be thrust into the municipal pie when work is to be found for idle hands to do. But in this case the cloth seems to have impressed some of the medical fraternity into joining them in a purity crusade, the particular object of which is the abolition of the display of women's hosiery in shop windows.

It seems that up to this time the proscribed stockings have been exhibited by the shopkeepers in flattened masses that were entirely unsuggestive of the dainty curves that they were manufactured to cover and yet to emphasize, or were so arranged that they presented simply formless mounds of variegated colors. Now this has been all changed, and the deft fingers of the "window dresser" have, by the aid of what is technically known to the trade as "forms," produced a display of shapely, well-dressed limbs that would put the ballet of the original Black Crook to shame and which, according to the local press, has drawn the youthful mind from all thoughts of the straight and austere lines of home and mother. In fact, these Toledo youths have been taught by these exhibitions that the line of beauty is a curve, and they have not only caught on to the curve itself, but have found out in ever-increasing numbers that the lines have truly fallen in pleasant places.

Now all this may be, and doubtless is, distressing to the clergy, a good many of whom know from more or less practical experience, the dangers of a temptation that they are accustomed to handle both in the pulpit and out of it. But it is no excuse for the doctor to go from practising to preaching, as he is the one man that should realize that nothing breeds contempt in the youthful mind so quickly as familiarity, and that custom will stale any fictitious ardor that novelty can produce. Thus no one comments on the abbreviated skirts on a bathing shore, or notices the bare arms and necks of the ballroom, but reverse the order of things and there would be a riot on the dancing floor and a masculine mass meeting on the beach.

Ten years ago, before the general adoption of athletic sports, with the concomitant costumes, women, and men, too, clad in these regalia, would have been followed in the streets by a jeering, scoffing crowd of abusive gamins. Today not one of these urchins would turn his head or remove his ever alert faculties from the pensive contemplation of his half-smoked cigarette. At the present time a woman could walk the whole length of Broadway clad in a short tennis skirt without attracting the slightest attention. Should she, however, attempt a crowded crossing in a long dress lifted to the same degree of elevation, or should she be caught in a spring gale on the weather side of the Flat-Iron Building, the price of "rubber" would rise as quickly as her skirts.

The stocking itself, however, is generally deemed a necessity in all civilized communities, and is one of, if not the most, important articles of wearing apparel. Its manufacture by hand gave our mothers and grandmothers infinite satisfaction, and the use of their busy needles killed the *ennui* of many a long winter evening. Now this has passed away, and the blue and gray yarn

products of our ancestors have been supplanted by the looms of commerce, which, under the influence of modern art, have blossomed out into an infinite number of lace, silk and lisle-thread varieties, the sight of which might well have dazzled more seasoned eyes than those of these young Toledo blades.

Apart, too, from its legitimate and accustomed use, the stocking fills many otherwise vacant niches in our domestic economy. Thus it is inseparably connected with our youthful recollections of Santa Claus, as no Christmas would have been complete without it hanging by the chimney. In France, and for that matter in this country, too, it is a favorite receptacle for hoarding money, the one difference being that the Gallic article is usually an old one belonging to an elderly woman, while with us it is apt to be one of the newest fashions which adorns a leg that is seldom bent by age. As a weapon of offense, it has, when filled with sand, become a most dangerous and deadly factor in the hands of the thug, making no noise and leaving no scar, so that, taking one consideration with another, the stocking's lot is not an idle one.

We do not, however, consider that these prodigal sons of Toledo are in any danger, particularly if they become inured to these temptations at an early age. We have all heard of the woman who was able to carry the cow in her arms simply because she began in its infancy, and we do not believe that these wooden calves will grow in weight as the years go by. Moreover, the average youth in a Western city who cannot tell the difference between these "artificial limbs"—no matter how temptingly they are arrayed in open-worked hose, bounded on the north by blue ribbon and on the south by a Louis Quinze slipper with its golden buckle—and nature's form divine, is painfully apt to die of starvation in the struggle of the survival of the fittest, and even if the means of subsistence had been inherited from a less impressionable father, his position in and his influence to the community would consist simply of being a purchaser of illusive and glittering gold bricks, from his more needy and worldly-wise competitors.

As far as our sympathies are concerned in this matter, they lie entirely with the very reverend, the president of the Ministerial Alliance of Toledo, Ohio. He is evidently sincere, and as evidently a wholesale reformer; one who will not dally with the compromise-producing position of Mother Goose and her son John, with one stocking off and one stocking on, but who stands squarely, with both feet bare, on the straight-out-and-out platform of the "Sockless Jerry." We do not wish to impugn his motives, and far be it from us even to suggest that he has civic aspirations, but from his utterances we can imagine him as wearing brogans next his thickened skin, disdaining stockings with all the unconcern required to fit him for a successful political career in bleeding Kansas.

ECHOES AND NEWS.

NEW YORK.

Dr. Ball an Emeritus.—The trustees of Columbia University have made Dr. Alonzo Brayton Ball emeritus professor of clinical medicine, in recognition of his long years of teaching service at the College of Physicians and Surgeons.

Voice Topics.—This is a new journal, a quarterly, edited by Dr. F. A. Bryant, of New York, devoted entirely to the subject of the voice, particularly to stammering and its treatment, in which specialty Dr. Bryant has long held a prominent position. We wish it a hearty success.

New Epileptic Home.—Private enterprise will further the efforts of the State in providing for epileptics at a new sanitarium, to be opened at Glenwood, Dansville, Livingston Co., N. Y., May 15, 1905. The site chosen is a delightful one, in the same general region as Craig Colony, which has shown such excellent results, and there is every reason to believe that the new epileptic colony will prove highly valuable. The terms are to be moderate and training is to constitute a desirable adjunct to hygienic measures.

P. & S. Hospital Appointments.—The following is the list from the College of Physicians and Surgeons for the curent week: *Methodist Episcopal, Brooklyn,* First, H. F. Graham, A. C. Hutcheson. *St. Vincent's,* First, W. J. O'Leary, J. S. Brady, C. M. Quinn, D. A. Corcoran. *City,* C. S. Boyd, H. S. Martland, P. C. Pumyea, J. D. Slack. *Monmouth Memorial, Long Branch, N. J.,* J. Z. McDermott. *Newark City,* J. J. Smith; Alternates, C. L. Allers, S. W. Dodd. *German, Brooklyn,* J. J. Valentine. *German, N. Y.,* First, R. M. Ottenberg, A. H. Noehren. Externes, A. M. Hellman, D. J. Kaliski. *Post-Graduate,* I. W. Voorhees.

Cornell University Medical College.—The following members of the Graduating Class of Cornell University Medical College have thus far obtained hospital appointments:—*Bellevue Hospital, Fourth Division,* J. H. Richards, H. P. Groesbeck, A. A. Walker; *N. Y. Post-Graduate Hospital,* B. F. Drake; *German Hospital,* G. L. Rohdenburg, J. H. Cudmore; *Methodist Episcopal Hospital (Seney),* W. B. Zimmer; *City Hospital,* H. A. Walker, J. M. MacKellar; *Brooklyn German Hospital,* E. O. Darbois, H. B. Avery; *Babies' Hospital,* Elizabeth M. Worts; *Rochester City Hospital,* M. Chapman; *Worcester Memorial Hospital,* L. E. Todd, A. L. Bedford; *Robert Packer Hospital (Sayre, Pa.),* H. I. Andrews, Jr.; *Rhode Island General,* S. N. Smith, Jr.; *St. Vincent's Hospital,* A. M. Wright.

Meningitis Decreasing.—Commissioner Darlington, of the Board of Health, last Tuesday made public figures showing that the death rate for last week was considerably less than it was the corresponding week last year and that the deaths due to cerebrospinal meningitis were

twenty-one less than the previous week. The death rate for the week ended Saturday at noon was 20.11 per thousand, while for the corresponding week of 1904 it was 25.76. Week before last there were 110 deaths due to cerebrospinal meningitis, while for the previous week the number was 131. In the corresponding week of last year the deaths resulting from the same ailment were 29. Pneumonia caused 232 deaths last week, against 427 for the same week last year. It is pretty well recognized that if more autopsies could be made on so-called meningitis cases it would be found that from 25 to 30 per cent. of the deaths accredited to that disease was due to other ailments.

New York County Medical Association.—At the next regular meeting of the New York County Medical Association, to be held on April 17, 1905, at the New York Academy of Medicine, 17 West Forty-third Street, Dr. Francis Huber will read a paper on: "The Clinical Features and Treatment of Cerebrospinal Meningitis." This paper is to be discussed by Dr. Abraham Jacobi, Dr. L. Emmett Holt, Dr. Thomas Darlington, Dr. Harlow Brooke, Dr. Hermann Biggs, and other distinguished authorities in the city. The second paper will be read by Dr. William B. Pritchard, on: "Galvanism as a Curative Agent in the Treatment of Nervous Diseases: Its Equipment and Technic." This paper will be discussed by Dr. George W. Jacoby, Dr. William J. Morton, Dr. J. J. MacPhee, Dr. Milton Franklin. The Association has rarely presented such an interesting program as the foregoing, and invites the medical profession to its meeting.

Lunacy Budget Itemized.—A highly desirable curb has been put on the State Lunacy Commission, which a short time ago voted to buy the farm of I. V. Baker, of Washington County, as the site for an insane asylum. In years past the commission has been in the habit of getting large lump sums from the legislature without specifying objects. Last year, for instance, the commission received a lump sum of $1,203,000 for making improvements, etc., at the various institutions. Following the Baker site scandal and the, as yet unexplained, disclosure of a $455,000 deficiency, the board has had to make an itemized statement this year of the cost of proposed improvements and the items have gone into the form of a single bill. The Ways and Means Committee of the Assembly directed the Lunacy Board to do this. The $1,152,566 asked for is divided into 146 items ranging from $60,000 to $242,000. It is surmised in some circles that the change is due to Governor Higgins. Besides showing the public what the commission purposes to do this itemized method gives the Governor an opportunity of cutting out appropriations intelligently. The bill, however, does not prohibit this board taking away from one item and adding to another. Among the items are the following: Reception hospital in New York, $150,000; two hospitals for acute insane, each to accommodate not less than eighty patients, and to be located at such established State hospitals as the commission may determine, $144,000; construction and furnishing of a building to accommodate at least 440 patients of the chronic class at one of the established hospitals to be designated by the commission, $242,000. The anomalous appointments of three immigration inspectors, drawing salary, who are not allowed to inspect by the Federal authorities still pass without comment. Some more Odellism.

Deficient Children in the Schools.—Investigation has shown that there are thousands of children admitted to the public schools every year who are absolutely unfit mentally, morally and physically to cope with the conditions which they meet. Examinations are being conducted along these lines by Dr. Luther H. Gulick, director of physical training for the city's educational institutions, and his assistant, Dr. Asa R. Brown.

"Fully ten per cent. of the pupils of the public schools," said Dr. Gulick last week, "should have special attention. I should say that from five to ten thousand of the two hundred and fifty thousand children in the schools of this city are so deficient that they should have special instruction in small classes in order to fit them for any part in life, and they should have the most tender care. With the funds now available," continued the Doctor, "it is not possible to conduct examinations on the scale which should be followed. Only the pupils whose appearance is such that the teachers are able to recognize that something is wrong with them are examined. The time will come, though, when every child upon entering school will be inspected by physicians so that it may be determined at the outset if he has anything the matter with him which would interfere with the prosecution of his studies. If a boy has weak eyes the authorities will see that he is provided by his parents with glasses, and instructions could be given that he be placed in a front seat. If a child is partially deaf every care should be taken to make sure that he is so placed that he can hear all that is said. Many children come to our schools who are beginning to develop curvature of the spine. A minute of such a fact could be made and the teacher could be advised of the condition so that the boy could be urged to sit correctly. Such care as that might result in the pupil gradually overcoming a tendency toward deformity."

With reference to the widely circulated statement that seventy thousand children go to school hungry, Dr. Gulick said "that there are very few such cases as that. Nevertheless if children are sent to school hungry it should be the duty of the teacher to find out that fact and by conference with the parents or in some other way make an arrangement by which the child shall live under better conditions. It is manifestly not the best plan to keep these deficient children in the regular classes. By so doing the progress of the other pupils is retarded and the backward ones do not get the instruction which they should have. You ask me as to the mental state of the two per cent. of the school children which I have mentioned. They are of course considerably in advance of children who are usually cared for in institutions and asylums provided by the State, yet they are incapable of keeping up to the grades in the public schools. They cannot be made to conform to the regular courses of instruction, yet by special care they can be made useful and self-supporting members of society. They should be taught first of all to labor with their hands, for by that means they will be able to earn their living. They can of course learn to read and write and to cipher a little. They can at least acquire enough arithmetic to enable them to count their money. It is impossible for teachers in regular classes which consist of about fifty pupils to do any work along these lines. Not more than fifteen of such pupils should be assigned to one teacher, for each one should have individual instruction and study. At the present time there are in all eighteen of these classes, averaging fifteen each, or, in other words, there are facilities for taking care of two hundred and seventy backward pupils, although I estimate that there are from five thousand to ten thousand children who require special training and attention." To substantiate the conclusions which he had reached Dr. Gulick called attention to the investigations conducted by his associate. Examinations of 2,084 children were made by Dr. Brown, which are used as a basis for the policy advocated with regard to the needs of the schools.

PHILADELPHIA.

Meningitis Reaches Pittsburg.—Pasquale de Costa, a boy, aged fifteen years, who had recently come from New York, introduced this disease into Pittsburg. His case was reported to the Board of Health and he was at once removed to the Municipal Hospital, where he died.

Dr. Osler will Address Students.—Under the auspices of the Stillé Medical Society of the University, Dr. Osler will deliver a lecture to the students of the University of Pennsylvania, upon the "Student Life," on April 19, 1905. Nelson W. Janney is chairman of the committee appointed to receive Dr. Osler.

College of Physicians.—The society met April 5, 1905. The members listened to the reminiscences of the earlier experiences of Drs. S. Weir Mitchell, W. W. Keen and John S. Billings. After the meeting the members went to the University Club, where the evening's entertainment was concluded with a smoker.

Obstetrical Society.—This society met April 6, 1905. The scientific program was opened by Dr. G. E. Schoemaker with a paper on "Some Operative Results." It was discussed by Dr. Noble, Dr. Norris and Dr. Hirst. Dr. B. C. Hirst read the next paper which was entitled "A Contribution to the Efficiency of Plastic Operation in the Genital Canal."

Woman's Medical College of Pennsylvania.—Gertrude A. Walker, clinical Professor of Ophthalmology, has resigned her position and Anina C. Rondinella has resigned as Demonstrator of Ophthalmology and Assistant Demonstrator of Pathology. The appropriation received from the State has apparently wiped out the ill feeling that existed between the hospital and the college departments of the institution.

Smallpox Infests a Town.—Mount Union, a town of 1,000 inhabitants in Huntington County, has quarantined nearly 100 cases of smallpox. The epidemic broke out some time ago and it was at first diagnosed as being chickenpox. Its spread caused the State Board of Health to send the quarantine officer to make an examination. The inspector reported the disease as smallpox and the infected houses were at once isolated. Before the visit of the inspector the affected individuals were permitted to mingle with the non-diseased persons, so that trouble is anticipated in stamping out the epidemic.

New Buildings for the Municipal Hospital.—Bids will soon be advertised for the construction of two new buildings on the new Municipal Hospital grounds. Each structure will be built of brick, will be two stories high and will contain two wards, and accommodating 300 patients. One building will be reserved for scarlet fever patients and the other for diphtheria. Arrangements will be made to disinfect every person or article that enters or leaves the building. There is available for the construction of these buildings $900,000. The smallpox ward, which has been building for nearly a year, is now complete.

Mayor's Message Refers to the Work Done by the New Bureau.—In his message to the council the Mayor calls attention to the fact that the Department of Public Health and Charities has been in existence since 1903 only, and in that time the Department has wiped out smallpox and has lowered the death-rate of other diseases. He points out to the council that something should be done so soon as possible to relieve the congestion at the Philadelphia General Hospital for the Insane and the Hospital for the Indigent. He informs the council that plans and specifications have been drawn for the construction of an administration building for the insane and one for the indigent, but, he is of the opinion that all the insane cannot be quartered there.

A Free Bed for Each $5,000 State Aid.—The Senate Appropriation Committee has inserted a provision in the bill for several Allegheny County Hospitals which provides as follows: That in consideration of the appropriation there shall be maintained a free bed for each $5,000 appropriated. The Mayor or the Director of the Department of Public Safety or the Director of the Department of Charities of the proper city will issue a certificate to the applicant to occupy these beds. The certificates are then to be presented to the hospitals' officer who will pass upon the propriety of such patients.

Conference of Anatomists.—The first session of the Conference of American Anatomists was held April 11 in Wistar Institute. Anatomists from all parts of the country were present. The subject considered at the meeting was the advisability of selecting a central institute for cooperative research, the board of managers of the Wistar Institute offering that institution for the purpose. Those in attendance were: Dr. Llewellyn F. Barker and Dr. Henry H. Donaldson, Chicago University; Dr. Simon H. Gage, Cornell University; Dr. G. Carl Huber and Dr. J. P. McMurrich, University of Michigan; Dr. George S. Huntingdon, Columbia University; Dr. Franklin P. Mall, Johns Hopkins University; Dr. Charles S. Minot, Harvard University; Dr. George A. Piersol and Dr. Edwin G. Conklin, University of Pennsylvania.

Houses in Which Meningitis Exists to be Placarded.—Dr. Benjamin Lee, secretary of the State Board of Health, has ordered that physicians report all cases of this disease to the health authorities and that the houses in which the malady exists shall be placarded. The sign shall contain a warning to the public asking them not to enter except by the permission of the Board of Health. Upon the placard will be written in large letters "Epidemic Cerebrospinal Fever; Spotted Fever—an Infectious and Communicable Disease." The presence of the poster on the house will not establish a quarantine of the inmates of the premises but merely a warning to the public not to enter. After the removal or the death of the patient the place shall remain placarded for at least one week.

Cerebrospinal Meningitis Discussed.—In a paper read before the American Philosophical Society, Dr. A. C. Abbott said that the present so-called epidemic began about September 8, 1904, and since that time 51 cases had been reported, but this figure includes the tuberculous meningitis also. From the widely separated foci in which the disease developed he inclines to believe that it is not contagious. In only four instances did he find that more than one case existed in the same house. The death-rate is about 35 per cent. in this epidemic. In discussing this paper Dr. Tyson said he has been trying to collect data with the view of drawing out a similarity between the meteorological conditions of the winter of 1864-65 and the present. They were remarkably cold. Dr. Cleeman said in Russia where it is very cold they have never had an epidemic of meningitis.

Governor Vetoes Consumptive Camp Appropriation.—In giving his reasons for the veto, he said, the bill opened a new field for establishment of charities for whose maintenance the State would be held responsible. "If we are to provide for consumptives because they are likely to be fatal and because they are likely to injure others we may some time be called upon to take care of individuals suffering with smallpox, leprosy, yellow fever, bubonic plague, typhoid fever or pneumonia." The bill makes no distinction between the class of cases treated. He is of the opinion that it should be confined to the poor. The commission which,

according to the bill, shall contain two practising physicians, he believes should be made up of experienced business men and artisans rather than of men with professional experience. To create a commission would take away important matter from a department recently formed by the passage of a bill.

CHICAGO.

Cerebrospinal Meningitis.—Only one or two cases of malignant spinal meningitis have come to the attention of the City Health Department up to this writing. It is said there were several suspicious cases, but these turned out to be not of the contagious form. There is no danger of an epidemic.

Fire at the Illinois Southern Hospital for the Insane.—A fire broke out at this institution, damaging the power house to the extent of $5,000. No casualties occurred. The patients were taken from their rooms and marshaled in halls in case it proved necessary to remove them from the building.

Inspection of Joliet Penitentiary.—It is said that tuberculosis has spread so rapidly among the prisoners in this institution, being attended by a largely increased mortality, that the State Board of Health has undertaken an investigation. It is thought that a crisis has been reached in the efforts of the prison authorities to combat the disease under present conditions, and that unless better sanitation is established, it will be practically impossible to prevent the spread of the disease to the prisoners now there, and to others who may be sentenced to Joliet in the future. Among those who will conduct the investigation are the President of the State Board of Health, Dr. George W. Webster; Dr. J. H. Long, Professor of Chemistry in Northwestern University Medical School; the Secretary of the State Board of Health, Dr. J. A. Egan, and Mr. J. A. Harmon, of Peoria, the Sanitary Engineer of the Board. Dr. Webster is quoted as saying, "We have no accurate knowledge of sanitary conditions at Joliet as yet, but we know they are far from perfect. In instituting an investigation, we are acting on the belief that the State of Illinois has no more right carelessly to infect a convict with tuberculosis than it has to take him out and hang him." Professor Long will make an analysis of the air in different parts of the prison, where it seems that lack of ventilation promotes the spread of infection.

When Shall We Be Chloroformed?—At a recent meeting of the Physicians' Club this subject was discussed both by laymen and physicians. Franklin MacVeagh replied to the question, "When Shall the Business Man Shuffle Off?" He said he is willing to feed out the 95 per cent. of incompetents to the Osler wolves in order to save the five per cent. who are fitted to survive. Only five per cent. of men who embark in business succeed; the 95 per cent. fail. They cannot meet the competition, but perhaps they could have done well as college professors, some of them. Prof. Geo. E. Vincent, of the University of Chicago, replying to the query, "When Shall the Professor be Doped?" introduced his graver remarks by an anecdote. A Scotch exhorter asked his congregation how many wanted to go to Heaven. All responded except one canny old fellow. "Don't you want to go, Sandy?" demanded the exhorter. "Aye," responded Sandy, "only I don't care to be personally conducted." He declared that the older a professor got, the better fitted he was for his business, since the ideal of the college professor is to be permanently dogmatic. Bishop Samuel Fallows considered the point, "When Shall We Administer Chloroform to the Clergyman?" He believes in persons getting out of the world when it is a decent time; but the days of man are not the proverbial three score and ten, but 120 years. This is scriptural, and he is glad to see it is also the present scientific idea. The subject was further discussed by Dr. Wm. Allen Pusey, Mr. I. K. Pond, Mr. Joseph W. Errant, Mr. W. D. Nesbitt, and Joseph L. McMahon.

GENERAL.

Meningitis in Silesia.—There is an epidemic of cerebrospinal meningitis at Kattowitz, Prussian Silesia. There have been 236 cases, of which 133 have proved fatal.

Ireland Physicians Honor Dr. Osler.—Dr. William Osler, Regius Professor of Medicine at Oxford University, has been elected an Honorary Fellow of the Royal College of Physicians of Ireland.

Meeting of Texas State Board of Medical Examiners.—The Board of Medical Examiners for the State of Texas (Regular) will hold its next meeting in Austin, Texas, May 2, 3, 4 and 5, 1905, for the examination of applicants.

A Congress of Midwives.—The midwives of Italy are shortly to meet in a national congress to be held at Milan. Intimations of adhesion have been received from the midwives' societies of Turin, Genoa, Milan, Bologna, Florence, Rome, and Cremona. The municipality of the city and the council of the province of Naples have promised their support. Addresses will be delivered by Professors A. Guzzoni, of Messina, E. Pestalozza, of Florence, and L. Bossi, of Genoa.

Lepers in Canada.—The annual report presented to the Federal Parliament of the Dominion of Canada by Dr. Smith, Medical Superintendent of the Leper Hospital, at Tracadie, New Brunswick, shows that there are now fifteen residents in the institution. Of these ten are males and five females, the youngest patient being ten years and the oldest sixty-two years. Chaulmoogra oil has been used during the last two years with some success. Dr. Smith, who has carefully examined the question, expresses the conviction that leprosy is communicable through contagion.

The Medical Profession in Italy.—In 1861 the total number of medical practitioners in Italy was 18,947, the proportion to population being 8.8 per 10,000. In 1861 the number had fallen to 18,420, a proportion of 6.6 per 10,000 inhabitants. In 1881 it was 18,950, or 6.6 per 10,000. In 1901 it was 22,168, or 6.8 per 10,000. The distribution of practitioners is somewhat unequal, the proportion being higher in the south (7.7 per 10,000) than in the north (6.1 per 10,000). In the province of Udine the proportion is lower than anywhere else in Italy, there being only one practitioner to 2,831 inhabitants; in that of Naples it is highest, there being two doctors to 732 inhabitants.

The West Virginia State Medical Association.—This association will hold its thirty-eighth annual meeting at Wheeling, W. Va., May 24, 25 and 26, 1905. The committees are unsparing in their efforts to make this meeting a memorable one for scientific interest. The social features will be fully equal to the facilities of the metropolis and the well known zeal and liberality of the members residing therein. Members who are in possession of interesting anatomical and pathological specimens are particularly requested to bring them along. If unable to come, please send them to Dr. S. L. Jepson, chairman of the committee on arrangements. They will be well taken care of and returned in safety. Titles of papers to appear on the official program must be

in the hands of the secretary not later than May 3, 1905. The usual arrangements for special railroad and hotel rates will be made.

The Missouri Valley Medical.—The excursion to the Portland meeting of the American Medical Association will leave Kansas City, St. Joseph and Omaha on June 27, via the Burlington and Northern Pacific Railways. A week will be spent in Yellowstone Park and one or two days in Seattle and Tacoma. A cordial invitation is extended to all medical men and their friends to join a congenial party and make this the most delightful trip of the season. The entertainment in Portland promises to excel all previous events, and the Lewis and Clark Exposition will be in progress at the same time. Rate for the round trip to Portland, $45. Yellowstone Park trip, hotels and all expenses, $49.50. Pullman, berth for two, $11.50 to Portland, allowing stop-over at the Park. A second special train will leave Kansas City on July 6 for the accommodation of those who do not care to visit Yellowstone Park. Full information and berth reservations may be obtained by addressing the secretary, Dr. Chas. Wood Fassett, St. Joseph, Mo.

Boston Medical Library Meetings in Conjunction with the Suffolk District Branch of the Massachusetts Medical Society.—The last meeting was held at the Library, Wednesday, April 5, 1905. Dr. F. B. Harrington was in the chair. The subject for discussion was Results in Non-Traumatic Surgery of the Brain and Spinal Cord. This included exploratory, palliative and radical operations for intracranial and intraspinal lesions, either objective or functional. Operations for the immediate results of trauma, for meningitis, for hydrocephalus and encephaloceles, etc., were excluded. Drs. James J. Putnam and E. A. Codman reported observations on actual results obtained at the Massachusetts General Hospital up to the present time; Drs. William N. Bullard and F. B. Lund reported results at the Boston City Hospital. Dr. Walter B. Odiorne described three very interesting cases of intraspinal tumors operated on by Dr. John C. Warren. Dr. G. L. Walton spoke of the findings at autopsy in cases of brain tumor and their bearing on the selection of operable cases. Dr. T. C. Munro and others took part in the discussion that followed.

Post Graduate Instruction in Cologne.—The Akademie für praktische Medizin, in Cologne, is founded to give post-graduate instruction to medical practitioners who have the advantage of following the practice of the Bürger Hospital, 510 beds; the Augusta Hospital, 480 beds; the Lindenburg Hospital, 480 beds; the Children's Hospital, 100 beds; the Ophthalmic Institute, 50 beds; and the Midwifery Training Institute, 70 beds (with 2,500 confinements annually). We are informed that during the first winter term which commenced in October last, 150 German medical practitioners were registered, and that at the end of January a special course for military medical men was attended by 30 staff district officers, and 5 district assistant medical officers sent by the ministry. On May 15 a fortnight's course for foreign practitioners will begin. Lectures will be given on medicine, children's diseases, pathological anatomy, surgery, orthopedics, gynecology and obstetrics, dermatology and syphilis, laryngology and otology, ophthalmology, psychiatry, hygiene and biology, and social medicine. Further particulars can be obtained on application to the secretary of the Cologne Academy, Portalgasse 2, Cologne.

French Congress of Climatotherapy.—As has already been announced in the *British Medical Journal*, the French Congress of Climatotherapy and Urban Hygiene, will hold its second meeting at Arcachon, April 24 to 28, under the presidency of Professor Renaut, of Lyons. The closing meeting will be held at Pau on April 29. In the Section of Climatotherapy the following questions will be discussed: The climatology of the French Atlantic littoral; pretuberculous and tuberculous cases in relation to forest and marine treatment; sanatoriums and seaside hospitals of the French Atlantic littoral; indications and contra-indications of the climate of Pau. In the Section of Urban Hygiene the questions to be discussed are mainly of local interest. Excursions will be made to the forest around Arcachon, Biarritz, Hendaye (Sanatorium) and Fontarabia, Bayonne and Cambo. A reduction of 50 per cent. is granted by all the French railways to titular members (subscription 20 francs) and to their wives and children registered as associate members (subscription 10 francs). The latest date for inscription is April 5. All applications for membership should be addressed with the amount of the subscription, to the general treasurer, Dr. Dechamp, Villa Tibor, Arcachon. For information relative to railway fares, tickets, hotel accommodation, etc., application should be made to the general secretary, Dr. A. Festan, Villa David, Arcachon.

National Association for Study and Prevention of Tuberculosis to Meet in May.—The most important meeting of tuberculosis specialists ever held in this country will take place in Washington on May 18 and 19, when the National Association for the Study and Prevention of Tuberculosis will convene and plan a great campaign to rid the United States of the most terrible scourge that now besets humanity —consumption. This meeting means much for the future of the country. Here and there local societies have undertaken to grapple with the tuberculosis problem, State and city health boards have fought the devastating plague with more or less vigor, and private philanthropy has assisted in the battle in no small measure, but not until now has there been an authoritative national body, composed of America's most distinguished experts—such men as Drs. Osler, Trudeau, Biggs, Bowditch, Sternberg, Flick, Knopf, and others. These leaders, with scores of other physicians and laymen of exceptional training and influence, have joined forces to take up the tuberculosis problem in all its aspects—sociological, pathological and bacteriological, clinical and climatological. Pulmonary tuberculosis, or consumption of the lungs, now costs more than one hundred thousand lives and a money loss of millions of dollars every year in the United States, and the leaders of the national movement for its eradication realize that their task is no small one. Yet the most conservative among them agree that the disease can be controlled and in the course of time virtually stamped out. This is their aim.

Nebraska Medical Legislation.—The medical profession of Nebraska has again passed through the throes of its biennial labor, and medical legislation for this year is over. The McMullen Bill is a clear, legal definition of what constitutes a physician and how one shall be recognized as such. It provides that any one shall be considered a legal physician, and required to apply for and receive a license, after a successful examination, who holds himself out to the public as being able to diagnose human disease,

who prescribes any form of treatment for the palliation, relief or cure of any physical or mental ailment, with the intention of receiving compensation therefor, or one who uses any title to indicate that he treats human diseases, or one who maintains an office for the diagnosis or treatment of disease. It also provides that any one who thus holds himself out as a physician and who does not possess a license shall be fined, on conviction, $50 to $300 and costs. This bill was passed by the House without amendment. It covers every phase of medical practice and was modeled upon the ideal medical bill, first suggested by Dr. Van Meter, of Colorado. The Nebraska Senate amended the Bill so that the Osteopaths were to be exempted from examination in all questions relating to the administration of drugs and the treatment of disease. This amendment was concurred in by the House and the amended Bill has been sent to the Governor for his signature. The profession has every reason to believe that he will sign the Bill. If he does, Nebraska will have an ideal law. The Osteopaths are already compelled by law to pass an examination upon physical diagnosis and the practice of medicine, exempt only from examination on materia medica.

P.S. The Governor vetoed the Bill.

Mississippi Medical and Surgical Association (Colored).—The following is the official program of next meeting, April 26 and 27, 1905: "President's Address," by Dr. J. M. May, of Westside; "Reminiscences of Twenty Years of Practice," by Dr. J. B. Banks, of Natchez; "Address in Medicine," by Dr. A. J. Lopez, of Lake Providence, La.; "Treatment of Diseases of Eye, Ear, Nose and Throat by General Practitioner," by Dr. A. W. Dumas, of Natchez; "Syphilis in Negro Children," by Dr. H. H. Procter, of Vicksburg; "Obstetric Complications," by Dr. T. V. James, of Columbus; "Genito-Urinary Diseases of a Surgical Nature, case Reports," by Dr. L. T. Miller, Yazoo; "Pulmonary Tuberculosis in the Negro and its Alarming Mortality," by Dr. S. D. Redmond, of Jackson; "Marasmus and Rachitis," by Dr. J. B. Banks, of Natchez; Address in Surgery, "Suppurative Appendicitis," by Dr. A. W. Newman, of New Orleans; "Address," by Dr. Jno. F. Hunter, Secretary, State Board of Health of Mississippi; "Gunshot Wound of Abdomen and Thorax—Operation; Enormous Hydrothorax, Paracentesis and Subsequent Empyema—Operation, Recovery, Presentation of Patient," by Dr. H. E. Connor, of Brookhaven; "Advances in Therapeutics," by Dr. C. Henri Woode, of Vicksburg; "Advances in Surgery," by Dr. C. W. Raines, of Clarksdale; "Points of Diagnosis in Diseases of the Brain and Nervous System," by Dr. D. W. Sherrod, of Macon; "Respiratory Diseases," by Dr. J. A. Miller, of Vicksburg; "Malaria and Malarial Diseases," Treatment, by Dr. J. H. Miller, of Greenville; "Enucleation of Large Tumors of the Abdomen," by Dr. B. F. Fulton, Greenville; "Venereal Diseases in the Negro," by Dr. C. S. Waters, of Moss Point; "Local Treatment of Gynecological Cases," by Dr. L. F. Miller, of Canton; "Syphilitic Manifestations in the Skin," by Dr. E. W. Moore, of Jackson; "Bronchopneumonia in Children," by Dr. Georgia Procter, of Vicksburg; "Traumatic Disease of Joints," by Dr. S. A. Miller, of Canton; "Chronic Interstitial Nephritis," by Dr. J. E. Beale, of Jackson.

American Proctologic Society.—The seventh annual meeting will be held at Pittsburg, Pa., May 5 and 6, 1905, at the Hotel Henry, Fifth Avenue and Smithfield Street. The profession is cordially invited to attend all meetings, at which the following papers will be read: "Malignant Disease of the Rectum and Its Treatment," by Dr. G. B. Evans, of Dayton; "The Ambulant Treatment of Internal Hemorrhoids," by Dr. C. F. Martin, of Philadelphia; "Is Fissure of the Os Uteri analagous to Anal Fissure? The Symptomatology, etc., of the Former, with a Consideration of it as a Cause of Sterility," by Dr. William Bodenhamer, of New Rochelle, N. Y.; "Instrumental Massage in the Treatment of Acquired Valvular Hypertrophy (Obstipation)," by Dr. T. C. Martin, of Cleveland, O.; "A Report of Cases," by Dr. Leon Straus, of St. Louis; "Urethrorectal Fistula, with Report of a Case," by Dr. W. M. Beach, of Pittsburg; "Tuberculous Fistulas of the Rectum, and the Repair of Extensive Injuries of the Bowel following Same," by Dr. Howard A. Kelly, of Baltimore; "The Operative Treatment of Tuberculous Fistulas in Tuberculous Subjects; with Report of a Case," by Dr. J. Coles Brick, of Philadelphia; "Formalin in the Treatment of Diseases of the Rectum, Sigmoid, and Colon," by Dr. John L. Jelks, of Memphis; "A Further Contribution to the Study of Pruritus Ani, with Special Reference to Local Treatment," by Dr. Lewis H. Adler, Jr., of Philadelphia; "Profound Secondary Anemia Due to Rectal Diseases: Report of Six Cases," by Dr. D. H. Murray, of Syracuse; "Personal Experience in the Employment of Mechanical Vibration in the Treatment of Rectal Diseases," by Dr. William L. Dickinson, of Saginaw; "The Office Treatment of Rectal Diseases and its Limitations," by Dr. James P. Tuttle, of New York; "Two Cases of Imperforate Anus," by Dr. T. L. Hazzard, of Pittsburg; "Amebic Dysentery: Report of Recent Investigations in Its Treatment," by Dr. Samuel T. Earle, of Baltimore; "Artificial Anus: Practical Suggestions Regarding its Making and Closing," by Dr. S. G. Gant, of New York; "The Pathology of External Hemorrhoids," by Dr. Louis J. Krouse, of Cincinnati; "The Treatment of Rectal Prolapse," by Dr. A. Tierlinck, of Gand, Belgium; "A Summary of Twenty Radical Operations upon the Rectum under Local (Sterilewater) Anesthesia," by Dr. A. B. Cooke, of Nashville.

American Medico-Psychological Association.—The sixty-first annual meeting of the American Medico-Psychological Association, will be held at San Antonio, Texas, April 18, 19, 20 and 21, 1905, in the Menger Hotel. The program is as follows: "The Unity of the Manifestations of Insanity," by Dr. H. A. Tomlinson, St. Peter, Minn.; "Perils of Psychiatry," by Dr. W. A. Gordon, of Winnebago, Wis.; "Neuropsychic Asthenia and its Psychiatric Aspects," Chas. H. Hughes, M.D., St. Louis, Mo. "The Prevention of Insanity in its Incubation by the General Practitioner," by Dr. J. T. W. Rowe, of Ward's Island, N. Y.; "Final Report upon the Relation of Insanity to Cardiac Diseases," by Dr. Arthur McGugan, of Denver, Col.; "Expert Testimony on the Doctor in Court," by Dr. D. R. Wallace, of Waco, Texas; "Korsakoff's Psychosis," by Dr. A. W. Hurd, of Buffalo, N. Y.; "The Therapeutic and Medico-Legal Features of Drug Addictions," by Dr. George P. Sprague, of Lexington, Ky.; "Melancholia, The Psychical Expression of Organic Fear," by Dr. J. W. Wherry, of Clarinda, Ia.; "Psychoses of Anemia," by Dr. Frank P. Norbury, of Jacksonville, Ill.; "Mysophobia, with Report of

Case," by Dr. John Punton, of Kansas City, Mo.; "Cholemia; Its Relations to Insanity," by Dr. R. J. Preston, of Marion, Va.; "A Case of Huntington's Chorea," by Dr. Harry W. Miller, of Taunton, Mass.; "Nature of Practice in Neurology," by Dr. Arthur McGugan, of Denver, Col.; "The Liver and its Relations to Mental and Nervous Diseases," by Dr. Charles G. Hill, of Baltimore, Md.; "As to Surgery for the Relief of the Insane Condition," by Dr. M. E. Witte, of Clarinda, Ia.; "Observations on Some Recent Surgical Cases in the Manhattan State Hospital, East," by Dr. John R. Knapp, of Ward's Island, N. Y.; "A Preliminary Report of the Gynecological Surgery in the Manhattan State Hospital, West," by Dr. LeRoy Broun, of New York City; "Some Observations on the Relations of the Gastro-Intestinal Tract to Nervous and Mental Diseases," by Dr. Robert C. Kemp, of New York City; "Tuberculosis Among the Insane," by Dr. C. Floyd Haviland, of Ward's Island, N. Y.; "Masked Epilepsy," by Dr. Gershom H. Hill, of Des Moines, Ia.; "Epilepsy as a Symptom," by Dr. Everett Flood, of Palmer, Mass.; "Clinical Notes on Dementia Paralytica," by Dr. E. C. Dent, of Ward's Island, N. Y.

Kansas Medical Society.—The thirty-ninth annual meeting of this society will be held in Hartman's New Dancing Hall, Wichita, Kansas, Wednesday, Thursday and Friday, May 3, 4, and 5, 1905, with the following program: Surgical Clinic at Wichita and St. Francis Hospital at 9 A.M. and 12 M. "Psychics in Practice of Medicine," by Dr. P. S. Mitchell, of Iola; "Exophthalmic Goiter," by Dr. S. S. Glasscock, of Kansas City; "Report of Detached Retina," by Dr. G. W. Maser, of Parsons; "The Physical Basis for Fatigue," by Dr. J. M. Latta, of Wichita; "Paper," by Dr. H. O'Donnell, of Ellsworth. President's Address; Medical Clinic and Demonstration of Cases; "Preventative Medicine," by Dr. S. J. Crumbine, of Topeka; "Treatment of Deformities," by Dr. J. Naismith, of Lawrence; "Surgical Diseases of the Gall Bladder," by Dr. G. C. Purdue, of Wichita; "Paper," by Dr. Frank L. Abbey, of Newton; "The Country Practitioner as a Surgeon, by Dr. B. R. Riley, of Coyville; "Intestinal Obstruction," by Dr. C. A. Smith, of Yale; "Some Therapeutic Axioms," by Dr. G. H. Hoxie, of Lawrence; "Medical Education," by Chancellor Frank Strong, of Lawrence; "Hyper-Acute Mania," by Dr. T. C. Biddle, Topeka; "Report of a Case Resulting from Railway Injury, by Dr. L. H. Munn, of Topeka; "Practical Experience With the Use of Alkaloids," by Dr. H. Humfreville, of Waterville; "Traumatic Neurosis," by Dr. W. S. Lindsay, of Topeka; "Address, Hypertrophied Prostate," by Dr. Chas. E. Bowers, of Wichita; "What Every Doctor Ought to Know About the Eye," by Dr. J. R. Scott, of Garnett; "Paper," by Dr. A. L. Cludas, of Minneapolis; "Esophageal Stricture," by Dr. D. W. Basham, of Wichita; "Paper," by Dr. H. H. Brookhart, of Scammon; "The Border Land in Nervous and Mental Phychosis," by Dr. C. C. Goddard, Leavenworth; "My First Fractures," by Dr. J. D. Clark, of Wichita; "Paper," by Dr. H. L. Clark, of La Cygne; "The Scientific Basis of Medicine," by Dr. J. F. Axtell, of Newton; "Disease of the Pancreas," by Dr. Longenecker, of Kansas City.

Medical Association of the State of Alabama.—The Medical Association of the State of Alabama will hold its next annual meeting in the city of Montgomery, commencing on Tuesday, April 18, at 12 o'clock noon, and will continue in session for four days. The following program has been arranged: "Jerome Cochrane Lecture," by Dr. Robert Abbé, of New York, N. Y.; "Monitor's Address," by Dr. William G. Somerville, of Tuscaloosa; "The Responsibilities of the Physician in Obstetrical Work, and How to Meet Them," by Dr. J. G. Palmer, of Opelika; "Iritis," by Dr. L. G. Goodson, of Birmingham; "Surgery of the Kidney, and Its Application to the Cure of Disease," by Dr. Harry T. Inge, of Mobile; "Lobar Pneumonia and Its Treatment," by Dr. W. S. Britt, of Eufaula; "Surgery of the Arteries," by Dr. Rudolph Matas, of New Orleans, La.; "Cystoscopy and Ureteral Catheterization in Gynecology," by Dr. H. Dawson Furniss, of New York, N. Y.; "The Non-Surgical Treatment of Uterine Displacements," by W. P. McAdory, M.D., of Birmingham; "The Choice of Methods in Removing Uterine Fibro-Myomata," by Dr. LeRoy Broun, of New York, N. Y.; "Electric and Radiant Energy as Therapeutic Agents," by Dr. E. T. Camp, of Gadsden; "Varicose Veins, and Their Surgical Treatment," by Dr. S. G. Gay, of Selma; "Modern Therapeutics," by Dr. Henry A. Moody, of Florence; "Therapeutics," by Dr. Henry N. Rosser, of Birmingham; "Tuberculosis," by Dr. Edgar A. Jones, of Raton, N. M.; "Recent Developments in the Study of Diarrheal Diseases of Infancy and Childhood," by Dr. S. W. Welch, of Talladega; "The Present Status of Gall-Bladder Surgery," by Dr. Robert N. Pitts, of Montgomery; "Cystitis," by Dr. W. D. Gaines, of LaFayette; "Some Observations as to the Causes and Treatment of Puerperal Infection," by E. M. Prince, of Coleanor; "Heart Treatment," by J. D. Heacock, of Birmingham; "Hip-Joint Complications of Typhoid Fever," by Dr. McLean Pitts, of Selma; "Syphilis," by Dr. A. G. Douglas, of Birmingham; "Tuberculous Peritonitis," by Dr. N. G. Clark, of Ensley; The Contract Doctor," by Dr. George A. Hogan, of Bessemer; "Alcohol as a Medicine," by Dr. E. H. Sholl, of Birmingham; "Puerperal Eclampsia," by Edgar G. Givhan, of Montevallo; "Spinal Cocainization," by Dr. George H. Searcy, of Mt. Vernon; "Recording Cases in Private Practice," by William C. Williams, of Shelby.

Tennessee State Medical Association.—The seventy-second annual meeting was held in the Watkins Institute Building, Tuesday, Wednesday and Thursday, April 11, 12 and 13, 1905. The following papers were read: "President's Annual Address," by Dr. Paul F. Eve, of Nashville, special order for evening session of first day; "Food Adulterations in Tennessee, by Dr. Lucius Brown, A.B., A.M.; "Dystocia," by Dr. D. M. Hall, of Memphis; "Melancholia," by Dr. S. T. Rucker, of Memphis; "Psychic Phenomena, or Hlpnotism as it should be in Medicine," by Dr. J. D. Hopper, of Jackson; "Diagnosis of Kidney Diseases," by Dr. Louis LeRoy, of Nashville; "Perinephritic Abscess," by Dr. W. A. Bryan, of Nashville; "Treatment of Hypertrophied Tonsils," by Dr. J. F. Hill, of Memphis; "Treatment of Hypertrophied Tonsils," by Dr. J. T. Herron, of Jackson; "Acute Middle Ear Inflammation," by Dr. N. C. Steele, of Chattanooga; "The Association of Serous Meningitis with Mastoid Inflammation," by Dr. E. C. Ellet, of Memphis; "Tuberculosis of the Skin," by Dr. J. M. King, of Nashville; "Keratosis Follicularis," by Dr. G. P. Edwards, of Nashville; "Gastro-Intestinal Diseases of Children in Summer," by Dr. Zeb. L. Shipley, of Cookeville; "Amyloid Degeneration: A Warning to the Physician; A Plea to the

Surgeon," by Dr. C. P. McNabb, of Knoxville; "The Clinical Significance of Ascites," by Dr. Raymond Wallace, of Chattanooga; "How Shall We Feed and Treat the Baby?" by Dr. Hermon Hawkins, of Jackson; "The More Serious and Unusual Complications of La Grippe or Influenza," by Dr. E. A. Cobleigh, of Chattanooga; "Biliary Concretions in the Common Duct," by Dr. W. D. Haggard, of Nashville; "Bone Surgery," by Dr. R. A. Barr, of Nashville; "Septicemia, with Report of a Most Interesting Case," by Dr. R. J. McFall, of Cumberland City; "Circumcision: Its Technic, Anesthesia, Operation, and After-Treatment," by Dr. E. A. Timmons, of Columbia; "Some Anomalous Cases of Appendicitis," by Dr. Jno. A. Gaines, of Nashville; "Appendicitis: Its Etiology and Pathology, with a Report of Laboratory Findings in Twelve Cases," by Dr. Walter Lenehan, of Nashville; "Amputations of the Thigh," by Dr. J. B. Murfree, of Murfreesboro; "Laryngeal Diphtheria," by Dr. O. H. Wilson, of Nashville; "Osteo-Myelitis," by Dr. Jere L. Crook, of Jackson; "Locomotor Ataxia," by Dr. G. P. Edwards, of Nashville; "Alcoholic Inebriety," by Dr. I. A. McSwan, of Paris; "The Importance of More Perfect Teaching of Physical Diagnosis in Our Medical Schools," by Dr. Hazle Padgett, of Columbia; "Treatment of Diffuse Peritonitis," by Dr. M. C. McGannon, of Nashville; "Unprofessional or Dishonorable Conduct," to which reference is made in Section 3 of the Medical Practice Act, by Dr. T. J. Happel, of Trenton.

CORRESPONDENCE.

ARMY TRANSPORT SERVICE.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—The last time I wrote you from a transport the letter was headed "On the Way to Port Tampa." I use the designation "Transport" for the miserable ship we were on, simply because that was the name given that particular boat and many others, equally unfitted for the carrying of troops by the then highly ornamental Secretary of War. The memory of Algers' fleet makes one most deeply appreciate the comfort and perfection (one might almost say) of "The Sheridan." In this letter I desire to set down, as plainly as may be for the delectation of your readers, what the Government is doing and has done for the better care of Army Officers and men at sea. It may serve to help them forget the Alger disgrace.

This ship may be taken as a type of the ships which Uncle Sam now has in his transport service. She is one of the Atlantic Transport Line and built originally with special strength and staunchness. She was later entirely refitted at the Fulton Iron Works, San Francisco, and, as I said, she stands to-day a model of what a troopship should be. To begin at the stern. Here we find a large, roomy hospital ward, capable of accommodating patients. A companion way in the very center leads to an isolation ward on the upper deck (the hospital itself being on the main deck) which is airy and flooded with sunshine; a better place for the treatment of contagious diseases could not be found on a ship. Aft of the hospital proper are the closets and bath tubs—excellently well placed since the foul odors are carried out the rear port holes by natural draughts caused by the forward motion of the ship.

There is, just off the main ward, an excellently equipped operating room and in immediate proximity are the dispensary, kitchen and the rooms of hospital corps men (nurses). The troopdeck is fitted with iron stands, three beds to each, for the accommodation of soldiers. Mattresses are not used; the ordinary wire spring being supplanted by canvass. This is removed at each port and thoroughly scrubbed and disinfected. Sixteen hundred to two thousand men can be comfortably cared for on this deck. The quarters occupied by the soldiers are marvels of cleanliness. I neglected to mention the system of ventilation with which the Sheridan is fitted. This extends to every part of the ship and the air of the troopdeck may not only be renewed at will but can be kept at any temperature desired; the temperature being taken every hour, night and day. Electrical fans are to be found in every stateroom and are placed wherever they may be desired, on every deck and in any nook and corner.

The soldiers eat on the main deck forward and the grub provided for them simply could not be improved. (What a contrast to the commissariat of those Heavenly Twins, Alger and Eagan.) The food in the cabin is delicious. I have never eaten as well on any Atlantic liner; not only that which is put before a passenger, but the way it is served—so appetizing; hot plates and all the rest of it and leaves nothing to be desired by the most fastidious. The Government buys only the best of stuff, and this is kept in the best condition in the cold storage plant which is maintained on the ship. Fresh bread is served daily and delicious are the rolls and cakes as well. There is fresh fruit in profusion; also part of the daily ration, so to speak.

As the best of everything is served to officers and passengers so is it to the enlisted man. Gentlemen who have seen the transports of the English, French, German, Russian and other armies tell me that there is nothing in any of them to compare to our American ships, which a thoughtful Government has prepared for the comfort and care of those officers and men who go forth to carry our flag to the uttermost ends of the earth.

And now comes the question which is causing much anxiety among those who have the good of the officers and men of the army at heart. Shall this magnificent service, established at so much labor and cost be done away with, at the behest, not to say the order of those men who control our railroads and who would get their unholy grip upon the sea-carrying of the Government as well?

It is devoutly to be wished that the Government will not give up this service. It goes without saying that J. J. Hill et id genus are not going into the transport business for their health and God knows not for the health of the officers and men of the American army. The change cannot be advised on the ground of economy, for the last report showed a very large saving to the Government in the last year from having run its own fleet of transports.

Another consideration—your business man would characterize this as "sentimentality." The one comfort which an officer has in his exile in the Philippines is in the fact that as matters are to-day he is enabled to have his wife and children with him. For a nominal sum the Government transports them to his station here and back to America in case of sickness or change in his orders. Now the powers of the trans-Pacific lines say this is really cruel injustice to them, taking all this trade and so making them poorer and in their "rarity of Christian charity," tell a listening Congress that they will take officers and their families for the moderate (*sic*) sum of $125 "per head." He who runs may read; the result would be that officers would have to get along as best they could without the love and companionship of those

nearest and dearest to them. Their very moderate salary could bear no such demand.

These unselfish and eminently altruistic capitalists say, "The Government should not be in the sea-carrying trade; they are hurting the American merchant marine which we and other apostles of purity and light are endeavoring to build up." One is tempted to irreverently remark, Bunkum. I am reminded of the answer found in a civil service paper:

Question. What is the purpose of Life Insurance?

Answer. It is to provide ample funds for those who are born in a state of impecuniosity.

This exactly fits this particular case. The purpose, the end of our Government, for in the opinion of these capitalists, is not to provide properly and generously for those officers and men who are daily giving up all they hold dear and their very lives that our nation may live, but to furnish more and more pabulum for them, who with all their riches consider themselves poor and to whose overwhelming greed there is no limit.

Another pertinent objection to turning the soldiers over to the tender mercies of the mercantile lines; our Government has found that both officers and men who have been stationed for any length of time in these islands are particularly liable to develop pneumonia, if subjected to the low temperatures which a ship encounters, returning by the great circle or northern route; indeed, as I understand it, 'twas this fact which led the returning ships to take the more southern course via Honolulu.

Again, the best of discipline can be and is preserved on the Government boats and the soldiers are exercised and drilled daily; there is no objection on the part of passengers to this, for whether they be army folk or not, it is perfectly well understood that these ships are first and foremost for the army, its comfort and improvement. Such practices could not be maintained on board a passenger boat. People who pay a high passenger tariff simply would not put up with them and one or the other would have to go. Drinking is kept at its minimum on the Government transports. They rank as Government reservations and no Canteen is allowed, and so long as there is no such sensible control as a Canteen gives, the officers are wise in keeping whisky away from the men as much as possible.

Finally, it is to be most sincerely hoped that the influence of the President and those who have the good of the army at heart will successfully resist any attempt to do away with the Army Transport Service, as it is now organized.

Frank Donaldson, B.A., M.D.

U. S. Transport Sheridan, Manila, March 1, 1905.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Section on Medicine.

Regular Monthly Meeting, held December 20, 1904.

The President, Charles H. Lewis, M.D., in the Chair.

Pneumothorax.—Dr. Mannheimer presented a patient suffering from pneumothorax. The patient was thirty-seven years of age, and suffered from the affection for some four months without any effusion of liquid into the pleural cavity. His mother had died of tuberculosis at the age of forty-two, and the man himself had suffered with symptoms of the same disease. He had been ailing since August when, after a few weeks of cough and malaise, there was a sudden onset of difficulty of breathing, with great oppression and pain in the chest. Not long after the signs of pneumothorax were recognized by the attending physicians, the right side of the chest was slightly enlarged to inspection and mensuration. There was very loud resonance reaching to the eight and ninth ribs. The diseased side does not stand still, but moves less than the other side, in respiration. The patient can lie on his left side, showing that his other lung is capable of doing considerable work. On percussion there is no change of note on opening or closing the mouth. The breathing is distant and amphoric over the entire side except in the interscapular region, and in the fourth interspace in front, where there is probably an adhesion. A distinct coin sound can be heard. Tactile fremitus is greatly diminished. The left lung is somewhat emphysematous. The heart is slightly displaced to the left and the liver is markedly displaced downward. This condition has continued to remain stationary for six weeks now, and it is a question whether aspiration of the air for the relief of the patient should not be attempted.

Acromegaly.—Dr. Mannheimer also presented a case of acromegaly in the person of the wife of the preceding patient. This patient is about forty years of age, and has suffered from the affection for the last three years. There has been distinctly progressive enlargement of the face, hands and feet, until now the picture of acromegaly is a very characteristic one. There are the prominent cheek bones, the prominent chin, the lower teeth protruding, the thick lips and thick nose, with the spade-like hands and the clumsy feet, and the large toe being particularly broad and the skin around the heel being much thickened.

Pachyacria.—The enlargement in this case is much more in width than in length, and justifies the term suggested by Recklinghausen some years ago because of this characteristic feature. The heart is somewhat enlarged, and the apex beat is heaving and found to the left of the nipple. The first sound of the heart is booming, and the second a pulmonary sound is distinctly accentuated. There is an acceleration of the pulse, which is also of rather high tension. A slight amount of albuminuria has been noticed, but this is not constantly present. The abdomen is quite pendulous. There is a distinct separation of the recti muscles, in fact, a typical diastasia. Menstruation ceases early in most cases of acromegaly, but is profuse in this case, occurring every three weeks and being much more abundant than normal. This is due to the fact that there are fibroid tumors present in the uterus causing the menorrhagia. This is atrophic rhinitis. The patient says that her voice has become coarser and deeper during the progress of the disease, and this observation is confirmed by her husband. The fungus and feels of vision are normal. There is slight myopia. The patient complains of weakness and pain in the left side and of headache, though not to the severe extent so often seen. No hereditary can be traced in the case, either direct or indirect. There is one child, aged six years, which looks perfectly normal and has always been healthy.

The Blind and Massage.—Dr. M. B. Potter then read a paper on the employment of the blind to give massage. He said that his attention had been called to the subject, particularly, by hearing that for several centuries the Japanese had employed blind persons to give massage and with great success. The result of this system is that massage is

very well done at a comparatively cheap rate in Japan, and, as a consequence, even the poor have the opportunity to take advantage of its curative effects. The government protects the blind in their avocation from being imposed on, and thus a class of people that otherwise would be a charge on the community becomes a very useful and self-supporting element. It is easy to understand that a blind masseur or masseuse would be more acceptable for people of delicate sensibilities than a seeing one. As a rule, the blind themselves enjoy better health as the result of the exercise they obtain, and as a consequence of the interest in life aroused by a constant money-making occupation.

Massage in Europe.—The only place in Europe in which massage is extensively carried out by the blind is in St. Petersburg. The first teacher of it was a medical student, who became blind just before graduating. There the experience is that the blind learn rapidly, especially if the pupils are selected with the definite idea of taking only those who show special talent. It is considered that two years are needed for the proper study of anatomy and physiology in connection with massage. After graduation the students are able to find a reasonable amount of work and make a successful living. In Sweden, the home of massage, an attempt to teach the blind failed. The reason for this was said to be the absence of books with raised letters, out of which principles of anatomy and physiology might be learned. In France the blind have been used, but not extensively, yet with some success. In Brussels there is a free school for the teaching of the practice of massage for the blind. In Denmark a ten-months' course is considered sufficient to prepare the blind for massage, and a reasonable amount of success has been met with in the teaching. At Brünn, in Austria, there is a successful school for the teaching of massage to the blind. The only place in Germany where a special effort has been made in this direction is at Leipsig, and here a certain amount of success has been obtained.

Faculties Necessary for the Work.—If the blind are to successfully pursue the avocation of massage, care must be taken in selecting proper individuals for training. They should have strong hands and soft fingers, and, as a rule, should be such persons as readily learn to use their hands for almost anything—that is, they should be what are called handy persons. In Germany and in Denmark and in Russia it has been noted over and over again that the blind themselves seem to improve in health as the result of the exercise and the occupation of mind consequent upon this employment. Great Britain has more recently succeeded admirably in establishing an institute for the teaching of massage to the blind. Women seem to do even better than men in becoming self-supporting after graduation. In looking up the records of graduates of massage institutions, not a few of them are found to have engaged in some other employment.

Preliminary Education.—It is important that candidates should be selected with due reference to their preliminary education. The more they know, the better are they likely to get along in this employment. Only such blind should be taken for training as are especially neat in their habits. This is a rather difficult matter, because many of the blind are slovenly. As a rule, they should have good health and a good appearance. Their teeth should be carefully looked to, for if they have an offensive breath, they will find it difficult to secure constant employment. Pupils should be between twenty and forty years, for at later years they do not learn well and do not secure the necessary dexterity.

Massage for the Blind in America.—In Boston something has been accomplished in opening up this new avenue for the blind. In Philadelphia excellent work has been done in connection with the Pennsylvania Institution for the Blind at Overbrook. About a dozen graduates are making a good living out of the profession of masseur. It seems too bad that more is not done in this matter, for in Japan it has been made a decided success. In this country very few of the blind are self-supporting. A certain allowance is made to all blind persons by many of the States in certain cities. If this occupation could be opened up to them, a great benefit would be conferred on them, and, at the same time, massage would be made available for many more patients than at present.

Need for Masseurs.—The chairman of the section, Dr. Lewis, in discussing Dr. Potter's paper, said that at the present time it not infrequently happens that patients who need massage do not have it because of the expense attached to it. Many patients, for example, convalescent from typhoid fever, would reacquire their muscular energy much sooner if given massage. Few use it, however, because of the expense attached to it, in considering the large bill for medical attendance that is likely to accumulate. For many other conditions in which there is relaxation of muscular tissue, as after intestinal toxemias, massage would add to the speed of recovery. In such conditions as pseudoparesis and in the various forms of hysterical paralysis massage would often be of the very greatest service. Always it is the expense attached to it that constitutes the main objection against its employment.

Electricity and Inflammatory Exudates.—Dr. Margaret A. Cleaves discussed the continuous current in relation to inflammatory exudates. She said that as the human body contains in its tissues six-tenths of 1 per cent. of common salt, it may be considered to be a good conductor of electricity and consequently definite chemical effects must be expected from the use of the continuous current. Undoubtedly there are electrolytic effects, though little electrolytic gathers at the poles. The electrolysis would seem to be of a destructive nature. This is what is especially noted in certain low-grade new growths and in inflammatory exudates. Undoubtedly the disappearance of fibroids can in many cases be brought about by the use of the continuous current. What happens is that the fluids and salts are removed from the morbid growth, and, as a consequence of the contraction thus secured, less blood is brought to the region and as a consequence a further diminution in size until actual disappearance may result.

Gynecology.—It is in gynecology especially that the use of the continuous current has proved of service. When the pelvis has become roofed in by exudate, the use of the current may produce a diminution of circulation in this material, and so bring about relief of symptoms due to traction and compression. It is in exudative inflammations that the continuous current has given especially good satisfaction. Its benefits, however, are not confined to the genital tract, but have been seen in the nose

and throat and in the intestinal tract. Hepatic congestion of inflammatory origin are also relieved, and in general whenever there is a low-grade inflammation, if the continuous current can be made to act directly upon an organ, then good will result. Where fully formed connective tissue bands have come into existence, then the electric current will not prove beneficial; but for masses of exudate surrounding articular surfaces or clogging tendon sheaths so as to prevent movement, the results obtained are preeminently satisfactory.

Phlebitis.—Dr. Cleaves has found the continuous current of excellent service in bringing about the reabsorption of such exudative masses as cause phlebitis after so many different forms of infection. She has had cases under treatment in which the phlebitis occurred as the result of vaccination, of typhoid fever, of uterine curettement, and all of them have been improved, though for many months beforehand all remedies have been tried without success. In cases where massage and passive movements had failed, in postseptic conditions, in joints, continuous current did not fail to give relief and produce a state of affairs within the joints which allowed much freer movement than before.

Electricity and Nutrition.—Dr. Rockwell said that the influence of electricity depends upon nutritive processes as well as its mechanical effects. The galvanic current especially, because of its chemical effects, may encourage absorption that would otherwise be either very slow or perhaps not take place at all. Any one who has seen the continuous current faithfully and properly applied in pelvic disease can scarcely fail to realize how much may be accomplished by this means. The physical effects of electricity, and especially the modification of what we now know to be the important processes of endosmosis and exosmosis, are undoubtedly responsible for some of these effects. Unfortunately there is a tendency to neglect the good that may be thus obtained, or to use electrical treatment with so little consideration that it is sure to prove ineffectual.

Chylous Ascites.—Dr. J. Finley Bell, of Englewood, N. J., presented the fluid from a case of chylous ascites. The patient was a German, fifty-seven years of age, who came under treatment suffering from severe dyspnea and from ascites involving not only the peritoneal cavity, but also the scrotum. There was rather deep pigmentation of the cutaneous surface and considerable cyanosis of the tips. He suffered from these attacks some few months ago and his case was called malaria. It seemed to be benefited somewhat by the use of Warburg's tincture. Three years ago he was examined for life insurance and pronounced perfectly healthy. Eight months ago, as the result of an accident, he suffered from a broken rib, but there seems to be no sign of this accident left. When he first began to suffer from accumulation of fluid in the abdomen, he was treated for obesity by a homeopath.

Present Condition.—He has never suffered severely from constipation and does not now, but the intra-abdominal pressure has increased so much that his diaphragmatic breathing is almost abolished. Besides, some crepitant râles are to be heard at the base of the lungs and he has developed stubbed fingers, which have come on quite recently. The circumference of his abdomen at the umbilicus is 118 centimeters. As there were no parasites to be found in his blood, the diagnosis made was hepatic cirrhosis, with consequent ascites. Accordingly he was tapped for this condition, when, to his physician's surprise, the fluid obtained was of milky hue and consistency. It is slightly pinkish in color and does not coagulate on standing. Four thousand c.c.'s were removed at this time, and though it was easy to demonstrate that more fluid was present, no more could be tempted to come out. The emptying of the abdomen had very little effect upon the scrotum, and this accordingly was tapped the next day and proved to contain only clear serum. This is evidently due to the mechanical interference with the circulation by the intra-abdominal pressure. Every ten days since the tapping has had to be repeated.

Possible Etiology.—The fluid obtained is always of the same chylous nature, so that there is evidently some obstruction in the chylous system. The man has not been outside of the United States for many years and no parasites have been found in his blood. An area of dulness, however, is demonstrable in the upper part of the thorax on the left side, and it seems clear that there is some sort of intrathoracic growth—whether of inflammatory or neoplastic nature is not clear—pressing upon the thoracic duct not far from its entrance into the veins. Whether this has had anything to do with the broken rib seems extremely doubtful. Absolutely no deformity can be found where the rib is said to have been broken, and there are no tender spots any place over the thorax. The temptation is to believe that there is a thoracic new growth, which is interfering more and more with the function of the duct. In that case the prognosis is not at all favorable, since such cases are likely to be of malignant nature; and then, besides, interference with the flow of the chyle is of itself likely to cause such serious interference of nutrition as will eventually lead to fatal issue.

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, held December 9, 1904.

The President, Samuel Wolfe, M.D., in the Chair.

Case of Pancreatic Cyst.—The paper was read by Dr. M. J. Karpeles, who reviewed in detail the literature of the subject, particularly the writings of Dickhoff, Filger, Lazarus, Körte, Moynihan, Hemmeter and Senn. The case reported was a male, sixty-eight years of age, with a negative family history, without specific history and temperate in the use of alcohol and tobacco. He first complained of discomfiture in the left side, insisting that his side had been sprained, the principal symptoms being marked nausea with occasional vomiting of a dark green, thin, watery fluid, without perceptible odor and in an amount out of proportion to that ingested; general pruritus, especially of the hands, dyspnea upon least exertion, profound weakness, epistaxis, colicky pains, frequent attacks of diarrhea and insomnia. The stools were submitted to a careful analysis and were found to be free from fat, the urine showed a low specific gravity, a trace of albumin and the presence of bile. Upon physical examination a tender area was elicited at the costal margin in the left mammary line. Ten days later it was possible to outline in this region a "mass" the size of an egg, which, at the time of the patient's death, about three weeks later, involved the left half of the epigastrium, the left hypochondrium,

the umbilical and the left lumbar regions. As this fluctuating mass, which was diagnosed a pancreatic cyst, enlarged, the gastro-intestinal symptoms proved more rebellious, the jaundice became more marked, the insomnia required hypnotics and the general discomfiture increased. In view of the marked prostration and jaundice operation was not deemed advisable. At autopsy a large pancreatic cyst was found, containing about two liters of a grayish colored fluid with little consistency and no blood. The cyst wall was thin and the inner lining smooth. It was impossible to determine the part of the gland in which the cyst originated.

Dr. David Riesman stated that he had never seen a case of this condition on the autopsy table and this was the first case he had seen recognized during life. In the differential diagnosis he felt that (1) cystic gall-bladder; (2) hydronephrosis; (3) echinococcic cyst; (4) and in women ovarian cyst should be considered. He stated that jaundice is not as prominent in cases of cystic gall-bladder but may be present. In hydronephrosis with renal crises and long history of pain, floating kidney should be taken into consideration; ovarian cyst should be differentiated by vaginal examination and echinococcic cyst by the patient's habits. He stated that in the above case reported exhaustion and epistaxis rendered operation inadvisable, although he felt possibly tapping of the sac, after sewing or stitching it to the abdominal wall might have been of value, if the epistaxis had not been so great. In the treatment of pancreatic cysts the surgical treatment was the one that should be employed. In regard to diagnosis he stated that where the tumor occurs in the epigastrium extending into the left hypochondrium and is accompanied by pains in the celiac plexus, these symptoms are sufficient to warrant a provisional diagnosis of pancreatic cyst. The danger of fat necrosis occurring by reason of the fluid getting into the abdominal cavity he felt to be quite small, and also believed that cases had occurred in which the tumor had evacuated itself into the intestinal canal.

The Etiology and Diagnosis of Cholelithiasis.—This paper was read by Dr. William Ruoff, in which he stated that no common etiological factor could be assigned to all cases. Age he considered an important factor, the majority of cases occurring between the ages of forty and sixty years; and the more frequent occurrences in females he laid to the mode of dress and pregnancy. The influence of age he felt might be manifested through the loss of contractile power of the bladder, thus favoring retention and the lack of resisting power of the body fluids. He felt that too much importance was attached to temperament, gluttony, excessive indulgence in meats and fats, heredity and climate. He discussed in detail the different varieties: (1) Pure cholesterin stone; (2) laminated cholesterin stone; (3) ordinary gall-stones; (4) mixed bilirubin calcium stones; (5) the rarer forms, such as (*a*) amorphous stones, resembling pearls; (*b*) chalk stones; (*c*) concretions surrounding foreign bodies; (*d*) casts of bile ducts. He then considered in detail the infective causes through the medium of the portal circulation and through an ascending infection from the common duct, and the influence of appendicitis, salpingitis, peritonitis, etc. The diagnosis was considered under three heads: (1) Cases in which no symptoms have been produced and which are usually discovered at autopsy table; (2) transitory symptoms of dyspepsia and abdominal and liver symptoms; (3) those cases causing severe, and at times almost fatal illness, which are most frequently met with. The symptoms of jaundice, vomiting, hepatic and cystic infection were considered, as was also the symptoms of impaction.

Gall-Stone Disease—Remote Effects and Treatment.—This paper was read by Dr. Samuel P. Gerhard, who reviewed the literature on the subject and stated that efforts should be mainly surgical. He stated that gall-stones, so long as they remained in the bladder, were perfectly harmless, but that the danger was due to the liability of accidents in their passage through the common duct, considering under this head, the infectious conditions, such as cholecystitis, with its train of fatal effects, as empyema and gangrene; pancreatitis, caused by pressure upon the head of this organ, fistula into a neighboring organ, peritonitis, etc. He stated that while a few years ago the condition was almost entirely within the domain of internal medicine, it was now almost equally monopolized by surgery, which he attributed to the advance in the results obtained by this method. The medical treatment, he believed, should be prophylactic, directed to preventing the formation rather than curing the disease. He referred to the cases of biliary colic, which, if recurrent, should call for careful consideration of the cause thereof and advisability of operation. Particularly should those cases be watched which have no jaundice, the symptoms are vague, and there is only slight recurring pains over the region of the gall-bladder, owing to their liability to run on to suppuration and deceive the attendant.

Dr. David Riesman, in the discussion, referred to the rarity of this condition in the colored race, and stated that, although he had had considerable experience in autopsy work, he had never seen a single instance. He stated that the youngest patient he had ever seen was eleven years, and the oldest seventy years, and referred to the comparative frequency of the condition in the male and in the female. He stated that the essential features in the diagnosis were, pain in the region of the gall-bladder, below the costal cartilage in the right peristernal line, although the location of the pain was not absolutely necessary. He referred to the case of a man, thirty-seven years of age, who had suffered from cramp-like pains in the abdomen for a number of months, chiefly in the epigastric and left hypochondriac regions, and unassociated with vomiting. He had been treated in various ways and had lost 20 pounds in weight. At operation, gall-stones were found in the cystic duct; there was no jaundice and no tenderness in the gall-bladder region. He also referred to several other cases in which the characteristic symptoms were not present. He stated in his experience the X-ray had not been of value in the diagnosis of these cases, and referred to the method of Dr. DaCosta of placing a cylindrical pad under the patient, so that the patient forms an inclined plane with the table, and then by gently rubbing with the hand, an enlarged gall-bladder may be felt. Referring to the pathogenesis, he stated that, without infection, the passage of the stone would cause inflammation of the gall-bladder and ducts, and believed that many of the cases which were called biliousness were really due to gall-stone attacks. He referred to the occurrence of the condition after infectious diseases, and reported a case diagnosed as duodenal ulcer, which on operation proved to be an infected gall-bladder.

The persistence of jaundice should suggest stone or malignant disease. In regard to treatment, he stated he had tried the sodium salts and also the salicylates, and that in some cases the attacks had been prolonged, but did not cease entirely, and he expressed the belief that the surgical treatment would assume the same place it had in appendicitis.

Dr. John B. Deaver also stated that he had never seen nor operated upon a case of gall-stones in a colored subject. He divided the condition into two classes: Cholelithiasis of the gall-bladder and affections of the common duct. The pain and tenderness in the epigastrium are less frequent in disease of the common duct than in the gall-bladder inflammation. He believed that the pain in the majority of instances is inflammatory, and due to infection. He felt that the question of jaundice was very misleading as a diagnostic factor, and stated that personally he never operated on acute cases, but if the attacks continue, and the symptoms and jaundice persist, then the value of operation must be considered. He did not consider the X-ray of much value in diagnosis. He referred to the importance of the physicians thoroughly understanding palpating, which method, if properly applied, he believed, would enable them to differentiate between gall-bladder disease and appendicitis, floating kidney, etc. After reviewing the history of several cases, he took up the subject of gall-bladder surgery, dealing particularly with the technic. He did not recommend operation in cases of acute common duct obstruction. In patients on which the operation is performed, it should be done early. He did not approve of the performance of such operations in private houses, and emphasized the value of careful preparation of the patient prior thereto, including careful urinalysis, but did not believe that stomach analyses are much value except in cases of acute leucocytosis. He favored drainage of the gall-bladder more than its removal, unless there was some indication for the latter procedure.

Dr. Wilmer Krusen referred to the case of a woman thirty-two years of age, who had suffered eight years with gall-bladder disease, but had been examined by four physicians, without the true condition being suspected, and the X-ray failed to reveal the seat of the trouble. At the operation for the removal of a cystic ovary, 43 stones were removed from the gall-bladder and the woman made a good recovery. Another case was reported, in which an operation was done by another surgeon for appendicitis, and the appendix found not to be diseased, and the wound was closed up. Two days later he was called in to see the patient, who had a pulse of 140 and a temperature of 103° to 104° F. A marked enlargement over the gall-bladder was found. Operation showed empyema of the gall-bladder, and 420 stones were removed therefrom, but the patient died within twenty-four hours from general peritonitis. He expressed the belief that gall-bladder disease was as much a surgical procedure as appendicitis, and that the sooner the operations were done the better for the patient.

Brain Collection.—Ten leading American anatomists have been appointed as an advisory board to the Wistar Institute of Anatomy of the University of Pennsylvania, and they have appointed a committee of five to cooperate with the committee on brain investigation of the international academies.

NEW YORK ACADEMY OF MEDICINE.

ORTHOPEDIC SECTION.

Regular Meeting, held January 20, 1905.

The President, Homer Gibney, M.D., in the Chair.

Fracture of Right and Left Femur.—Dr. Homer Gibney presented this case from his service at the Hospital for Ruptured and Crippled, with X-ray. Girl, aged five years, admitted to hospital January 11, 1905. The diagnosis was fracture of right femur and old fracture of left femur. Left femur fractured two years ago. Found not to have united. Had no pain. Four days before entrance fell and had fracture of right thigh. Had no pain at entrance. The physical examination showed fracture of right thigh, anterior bowing at middle and upper thirds. Linear scar four inches long over outer side of same thigh. Also marked anterior and lateral curvature of left thigh at same level; bone, however, is very firm.

Treatment.—January 17, 1905, right leg by use of traction and local force straightened and bones got in good apposition, and put up in plaster spica, as at present. Subcutaneous osteotomy was done on the posterior half of the left femur at site of old fracture. The bone was then broken backward and plastic spica applied to that side.

Double Coxa Vara.—Dr. Gibney also presented a case of double coxa vara admitted by Dr. Whitman and operated on by him. Girl, four years old. The progressive scissors deformity was not present; the waddle peculiar to congenital dislocation was present in this case, but the tibial curve had been corrected. Physical examination on admission showed marked evidence of rickets, waddling gait and lordosis, as in double congenital hip. Trochanters above Nelaton's line both sides. Right and left legs same on measurement. Soon after admission Dr. Whitman did osteoclasis (manual) at the middle of both tibiæ; union firm; put up in plaster-of-Paris in overcorrected position. Firm union; deformity corrected, and the child was measured for braces which she now wears.

The Chairman said that the interesting feature of this case is that the X-ray shows the right angle deformity of both femoral necks to be a rather unusual bilateral coxa vara.

Dr. Whitman said that now that the bow legs had been corrected he should proceed to treat the coxa vara with the idea of replacing the neck of each femur in the normal position, for, in his opinion, the deformity might later on become progressive. The character of the operation he had described on several occasions, namely, a cuniform osteotomy at the base of the trochanter, of sufficient size to permit full abduction of the limb.

Osteitis Deformans.—Dr. Whitman presented an X-ray picture showing thickening, softening and slight deformity of the right femur. This illustrated so-called local osteitis deformans. The patient, a man fifty-eight years of age, had noticed slight discomfort about the thigh for twenty years. For three years this had become more troublesome. There was a slight limp, slight outward and forward bowing of the middle of the femur and one inch of shortening. No treatment other than the avoidance of overstrain seemed to be indicated.

Epiphysitis.—Dr. C. N. Dowd presented a boy who had had epiphysitis of the upper end of the humerus, which healed after operation two years ago. The abscess which had followed the epiphysitis had pointed just back of the deltoid insertion. The joint had not been involved. About half the head of the

humerus was removed without touching the articular surfaces. Healing was complete in about two and a half months. The speaker particularly called attention to the condition of the shoulder-joint, which was normal; also to the growth of the bone, which also was normal. A second patient, of a similar kind, which was announced on the card, but which had not come to the meeting on account of whooping-cough, showed also a normal joint and normal bone growth, although the interior of the head of the bone had been completely removed, leaving simply a thin hard shell. He asked the experience of the members of the Section on the effect of epiphysitis on the growth of the bone. He had seen a number of cases in which only a small shell of bone was left and in which the subsequent growth had been normal.

Dr. Dowd also presented a case of epiphysitis of the lower end of the tibia with an X-ray picture which showed a cavity in the bone leading upward from the epiphysis about an inch to the bone surface. The bone below the epiphysial line was cloudy and showed a lack of detail in the picture, but there was no evidence of involvement of the ankle-joint itself. The motion in the ankle-joint was free and not painful. The wound was practically healed. The outer shell of bone above the epiphysial line having been removed for about two inches healing had taken place in five weeks. The speaker also presented a case of fracture of the external condyle of the humerus, admitted in September, having the ordinary appearance of such a fracture. The arm was put up in plaster in flexion; was inspected in two weeks and put in plaster again for two weeks more. He was unable to gain extension after healing had taken place. He was seen again about December 1 and the fragment could be distinctly felt; very slightly movable, the arm was still flexed at about 90 degrees. This fragment was removed by Dr. Mathews and was found to consist of a part of the external condyle and about half the capitellum. It had rotated about 90 degrees. Motion was good after this removal. The arm was again immobilized in flexion for three and a half weeks. Motion was now nearly normal. He has been carrying a light weight on his wrist, and extension has rapidly increased in that way. He referred to a similar case which had previously been treated in the hospital, and to several which were reported by Kocher and others. Dr. Dowd said that he had been interested in this case on more than one account, particularly from having read in one of the most recently and widely circulated systems of surgery the following statement concerning fracture of the external condyle. "The prognosis is unfavorable as the fracture lies partly within the joint and callus production and adhesion may cause permanent impairment of motion; for this reason it is important to begin passive motion as soon as possible,—that is, at the end of the second week." He believed that the best way to prevent callus formation was to immobilize the arm until the fragments were firmly united, and quoted his own experience of about 50 cases with only one in which good extension did not result. On the other hand, the surgeons who advocated early passive motion were the same ones who were also removing the fragments of bone frequently because their results were so poor. He felt that it would be advisable for the Orthopedic Section to express an opinion as to the desirability of immobilizing such joints in order to prevent callus formation and thus gain a good result.

Talipes Equinovalgus.—Dr. Dowd also presented a case of paralytic talipes equinovalgus, treated by the method which Dr. Whitman advised. The tendon of the extensor hallucis was divided near its insertion, carried through a hole in the scaphoid bone, the end being then brought up and sewed to the upper part of the tendon, making a firm fastening to the center and to the side of the bone. Synarthrodesis of the astragaloscaphoid joint was also done. A small filament of the tendon of the extensor hallucis, which was separated from the rest, was left in this patient. The foot had been kept in plaster for three months. He was now walking with a brace, which limited the plantar flexion of the ankle-joint and prevented eversion of the foot, and walked very well.

Fracture of the Middle of the Femur.—Such a case was also presented by Dr. Dowd with practically a perfect result. The X-ray picture showed an oblique fracture, with good apposition. A similar picture, taken after a healing, showed the position was maintained, and there was a slight callus about the fracture. The case had been treated with Buck's extension for two weeks, then kept in plaster for five weeks. He said that he had noticed that four weeks had been suggested as a time in which bony union is firm in a child after fracture of the femur, but it did not seem to him wise to permit use of such a femur under seven or eight weeks.

Dr. Whitman said that accurate apposition and rest would assure union with the least callus formation, as illustrated by the X-ray picture of the fractured femur presented by Dr. Dowd. He had supposed that early passive motion in cases of fracture involving a joint had been employed rather to push away bone or callus that might prevent motion than with the aim of lessening its formation. Massage, after union was assured, had of course a very different object. Dr. Whitman said, regarding Dr. Dowd's case of tendon transplantation, that it was difficult to assure firm anchylosis in children so that in doing this operation he sewed the astragalus and scaphoid with strong silk and fixed the foot invarus and slight dorsal flexion (overcorrection). As soon as possible the patient was encouraged to walk about and the longer the attitude was retained, the better, in order that varus should be impressed on the foot by accommodative changes. In Dr. Dowd's case there was slight flatfoot which might be corrected by a foot plate.

Dr. Whitman said that in correcting deformities at the elbow following fracture, the attitude of complete extension was of advantage. This was best assured by a plaster bandage which included the thorax as well as the arm. Complete extension was an awkward attitude for ambulatory treatment, but was not uncomfortable if the patient remained in bed, as was usual, after the open operation to which he especially referred.

Dr. Myers said he thought the amount of shortening would depend upon how much of the epiphysis had been destroyed by operation or disease; the amount of motion on whether the joint was involved or not, though this rule was not absolute. These cases are quite frequent in tuberculous children following strains and the results usually much better than in the hip. The speaker remembered two cases about twelve years old now, and it would be impossible to say anything had occurred at that joint, whereas, in another the limb had been shortened at least three inches in its development. This case had undergone two scraping operations in that region, and probably most of the epiphysis had been destroyed.

Dr. Sayre said that in his experience if the disease has been so extensive as to either obliterate the epiphysis of itself or to cause it to be removed by surgical intervention there has been very material reduction

in the growth of that limb. It does not at all times follow when the disease is situated in the neighborhood of the epiphysis that by removal of the diseased tissue the epiphysis is sacrificed. In those cases he thought we still had sometimes, the same rate of growth in the leg. He had operated on an ankle in a boy a little older than the one presented this evening, scooping out the lower end of his tibia to remove a tuberculous focus. At the present time the patient is a medical student, with legs of absolutely normal length. About five years ago the speaker had scooped out the head of the humerus in a girl twelve years of age. The last time he had seen the case there had been no appreciable diminution in the length of that humerus. In a good many other cases seen there had been very marked diminution in the growth of the bone after such operations. In some cases of hip disease one sees a very marked atrophy of the femur, very marked shortening, although the case has been rather a mild one and the acetabulum and the tip of the femur have been very little involved, but the epiphysis evidently very much demoralized both from appearance as shown in X-ray and diminution in growth of the leg. A very much shortened femur on that side was sometimes accompanied by very excellent functional result.

Dr. Sayre said Dr. Dowd showed that case of elbow, as he understood, to get the opinion of the Section as to the result of movement of fragments soon after fracture in regard to the production of callus. It seemed that the irritation of the two extremities of broken bone was one of the surest ways of producing callus. Judging from practical results he had seen, there was much freer motion in fractures of the joint, when left severely alone after fracture, placing fragments in as nearly normal position as possible, keeping them quiet to get good union, rather than taking them down at the end of a fortnight to move them. It has been fashionable in recent years to take fractures down very soon after the injury, in a fortnight, we will say, and begin to move them, and that was the plan a number of years ago. Then it became less fashionable in this country and the doctrine of rest after replacement was preached very forcibly by a great many gentlemen. Abroad they recently have become enamored of the idea of manipulating the fragments and moving the joint very soon after fracture with the idea of preventing anchylosis. The reason for moving these fragments in the neighborhood of the joint as given by those practising in this country was not to prevent the formation of extra callus in the joint, but to keep the joint itself limber so it would move, and the ligaments would not set up fibrous anchylosis. The idea of motion of the broken part diminishing the formation of callus was new to the speaker and he was surprised at Dr. Dowd having said that Von Bergmann gave that as the ground work of his treatment.

Dr. Fiske said he did not know of any more difficult fracture to treat than that of the external condyle of the humerus. In those cases involving joint surfaces there is generally a good deal of displacement, for that reason we have poor results due to the amount of callus which is large because it is almost impossible in some cases, to effect perfect apposition of the fragments. It seemed to the speaker that any such fracture with fragments displaced should be reduced while the patient is under an anesthetic. He said he made it a rule in attempting to effect reduction. In many cases, it is impossible in spite of the greatest care in manipulating, to effect exact reduction. In most cases he placed the arm in the right angle position. In two weeks, when changing the dressing, he attempted to drop the arm 20 or 30 degrees. He thought this method eventually gave a better result than when the arm was kept in one position four or five weeks. He said he was not in favor of early massage, but thought the joint should have twenty-eight days of absolute fixation.

Dr. Fiske said that several cases had been treated with the arm in extension with fair result. He presented a man who, about eight days ago, attempted to perform an athletic feat by which the Achillis tendon on the left side was put under great strain. A physician called in to look at the case decided that nothing very much was the matter. Dr. Fiske, after a few days, saw the man for the first time, and discovered that he had practically complete rupture of the upper portion of the Achillis tendon, but had good function. It was an unique case. He had attempted to jump up against a wall and placed his foot against the wall. The shoe he had may have caused pressure, cutting him.

Dr. Whitman said this case brought up a joint in favor of subcutaneous tenotomy in that it demonstrated how one may divide a tendon and leave the sheath to preserve continuity. He said he would fix the foot in slight equinus until the tendon had united, the calf muscle would meanwhile accomodate itself to the elongated tendon. The man, in his opinion, should not walk without support, for fear of breaking the sheath.

Dr. Sayre said a number of years ago this question of immobolization of the tendon after tenotomy occupied a great part of orthopedic literature. Mr. Adams wrote a long work on the subject of tenotomy which received a prize, in which he proved successfully, he thought, that it was necessary to immediately approximate the fragments after a tenotomy, in order to get union. In the appendix he spoke of Mr. Rolfe Cox, a veterinary surgeon, who operated on race horses who had equinus. He cut the flexor perforans tendon, cut off the overgrown part of the hoof and allowed the horse to stand on his foot and run about the field at once. He soon recovered with a good tendon, winning a race the next year. This showed that the approximation of fragments as argued in the first part of the book, was not necessary in quadrupeds. It is not necessary, either, in bipeds. If one divided a tendon and covered the gap between the ends with a firm dressing and thus left a space to be filled in with blood, it would afterward organize in a good piece of tendon. After eighteen days, in rabbits, it is difficult to see with the naked eye that there has been a break. In three months one cannot detect the union under a microscope. On the contrary, if one put a tight bandage around the part with a protecting roof over the gap, and keep it there, the space would be occluded so no opportunity was allowed for effusion into the gap, and cases thus treated might result in non-union.

Dr. Ogilvy cited a case in which a heavy woman was allowed to walk in seven days after the snapping of the tendon. She could not raise herself on her toes, and the tendon was not half so strong as before rupture. The result, he thought, was due to the fact that she had been allowed to walk too soon.

Dr. H. W. Frauenthal showed a girl, aged ten, in whom both hip-joints were anchylosed at right angle. He asked for suggestions. Her trouble started in the right hip at three years of age. Had had all kinds of treatment. For the past three years no treatment at all. It was a case of neglect, sent to the speaker to see if anything could be done for her.

Dr. Charles Ogilvy presented a case of congenital dislocation of the hip operated on in October, 1901, by Dr. Phelps, open method. The patient was admitted

six weeks before operation, during which time between six and eight pounds' weight was put on the leg. The Hoffa open operation was done except that the Duyon excavator was used. The neck of the bone had an anterior twist. The head set more perfectly in the acetabulum by having the leg rotated inward and the leg was put up in plaster, remaining three months, after which time a Phelp's hip splint was applied. This was kept on for six months, making nine months of fixation altogether, after operation, after which time the child was allowed to walk without further apparatus. The result is perfect. Dr. Ogilvy showed another case operated on by Dr. Phelps, open method, in December, 1901. For six weeks a plaster-of-Paris spica was applied; after that the plaster was removed and a hip brace was applied as in the other case. The brace was kept on for six months. In July the brace was removed. On December 12, 1902, Dr. Lorenz operated on the other side. At the time of the operation he mentioned the fact of the acetabulum being particularly shallow, and said it was wiser to keep on the plaster-of-Paris as long as possible, even if it had to be renewed—that it should be kept on for at least nine months. She was treated as he advised with the results as shown.

Dr. Whitman said that he was glad to see such good results from the open method. He thought that it should follow the Lorenz operation when that had failed. He did not think the Lorenz attitude the cause of anterior displacement ordinarily, but rather the deformity of the neck and head of the bone. In the bilateral cases shown there was slight anterior displacement on both sides. On the side in which the acetabulum was excavated there was a bony outgrowth which gave the femur a more secure support. Dr. Whitman said that in a number of instances he had operated for this twist of the upper extremity of the head of the bone. He had opened the joint, enlarged the acetabulum when necessary and replaced the head of the bone by rotating the limb inward. Subsequently the normal relation was restored by osteotomy of the shaft of the femur. After the joint is open one can see the relation of the neck and head of the bone to the condyles of the femur, and can demonstrate that permanent replacement is impossible unless the deformity of the bone is corrected. Dr. Sayre said he had heard an expression from Dr. Lorenz in regard to this technic. Dr. Sayre had asked him what his practice was in cases where the anterior twist of the neck of the femur is so great that when one puts the head in the acetabulum the toes are turned inward. In these, if one succeed in placing the head in the acetabulum the foot must be turned inward and could only be straightened by subsequent osteotomy in the shaft of the femur. Dr. Lorenz replied that this was the logical mode of procedure, but it did not seem to him to be necessary. What he was looking for was a good functional result rather than perfect anatomical replacement and in his experience he had obtained results functionally satisfactory to the patient by anterior reposition in these cases. He cited a case in which one of his colleagues had followed out partially the treatment just outlined by Dr. Whitman. When he had arrived at the stage where osteotomy should be done the parents threw up their hands at the idea of an operation and went to Vienna where the non-bloody operation was performed, with double transposition, anterior, to the great delight of the parents. In both of the patients on whom Dr. Lorenz operated for Dr. Sayre at the New York University and Bellevue Medical College, he obtained anterior transpositions. He said that the head of the bone was not in the acetabulum—he did not pretend to have it in there—did not think it necessary to do so, but he said the children would have very excellent, useful legs the way he left them, and that was what all were anxious to have. One case was single, the other double. The "double" child walks a good deal as the "double" child did this evening. The child with "single" hip walks very excellently—runs up and down stairs with hardly a trace of limp. One can see she has not an absolute reposition when her clothes are off, and motion is slightly limited, and there is a tendency to turn the toe too much outward unless she thinks of it. Several people have guessed wrongly when asked which leg, as she ran up and down the room. Dr. Sayre said he had a case of double congenital dislocation of the dorsum of the ilium, which he saw when the girl, now nineteen years old, was a small child. The child fell downstairs, thrusting one leg through the banister, severely wrenching the hip. This fall converted the posterior luxation into anterior. That leg was one inch longer than the other, solid and stable, the other slipped around the dorsum of the ilium. She said: "This leg has been all well since I fell downstairs. If you can make the other as good as this, it is all I want." That was the attitude of Lorenz. Dr. Sayre said neither of the cases Lorenz had operated on for him had so good a functional and anatomical result as that of the single open operation shown this evening. The speaker said he thought Dr. Whitman had stated the case as tersely and as exactly as possible, and he considered it the logical and sensible thing to do in the majority of these cases.

Dr. Ogilvy said he had noticed in looking over statistics of cases operated on by Dr. Lorenz, that the majority resulted in anterior displacement. In several cases he distinctly remembered, operated on by the open method, he found the head and neck of the bone twisted anteriorly. It is easily understood that if these cases, with the neck and head of the bone twisted anteriorly be treated by the Lorenz method, the head of the bone will be anterior and we will have as a result, an anterior displacement. Dr. Ogilvy asked if that were not the reason why there are so many anterior displacements, the result of the Lorenz method—Why will not internal rotation rather than outward rotation obviate this result?

Dr. H. C. Frauenthal presented the case of a young man who came under observation on the tenth of the month. He said he had not opened his jaw for ten days—perimaxillary abscess. An attempt was made seven days ago to excise the abscess, which broke. The patient was admitted to hospital for observation. Since the breaking of abscess the jaw can be opened three-eighths of an inch. Has been on soft food for twenty-one days. No temperature, no pain, no septic chills or anything of the kind. A wisdom tooth extracted nine or ten days ago may have been the cause of the trouble.

CHICAGO SURGICAL SOCIETY.

Regular Meeting, held January 16, 1905.

The President, L. L. McArthur, M.D., in the Chair.

Stricture of the Esophagus.—Dr. Daniel N. Eisendrath presented a patient who began to have difficulty in swallowing, with regurgitation of food, about one year ago, necessitating eventually a gastrostomy. This operation was done in New York, with apparently a good result. An esophageal bougie could not be passed beyond the level of the junction of the

manubrium with the gladiolus. He had the patient swallow a large amount of bismuth, and then made a radiograph, which showed the obstruction and to the left of it a tumor. The obstruction was a saccular one. After the passage of steel sounds, the man was able to swallow milk, but at present was feeding himself through the gastrostomy wound. This case showed the value of the X-ray and bismuth for diagnosing these conditions.

Actinomycosis of the Jaw.—Dr. William Hessert presented a young woman, aged fifteen years, who a few months ago presented a history of toothache and a swelling of the right jaw. A decayed tooth was visible, and the trouble seemed to be a necrosis of the jaw, with cellulitis in the surrounding tissue. Operation failed to disclose pus. There was a hard indurated mass, the bone being denuded. The wound healed, but the tumor increased in size. Later small areas of softening appeared, three or four of which were incised and in the discharge was found the ray fungus. The patient was put on large doses of iodide of potassium, and had improved steadily. The mass had diminished in size about one-half, and she could now open her mouth better than ever before.

Metastatic Renal Abscesses.—This patient consulted Dr. Hessert because of a necrosis of the right jaw. Some years ago the patient had necrosis of the right femur necessitating its amputation two inches below the trochanter. Later he had some abscesses of the back. The trouble in the jaw was diagnosed as an osteomyelitis. An incision was made and a small amount of pus was evacuated. The patient did well for about ten days, when he began to complain of pain in the right lumbar region. Repeated examinations of the urine finally showed a small amount of pus. The right kidney was increasing in size, and became tender. The general condition of the patient was indicative of sepsis, and a diagnosis of suppurating right kidney was made. The kidney was removed, and showed a number of abscesses in the cortical portion. The pus was found to contain *Staphylococcus pyogenes aureus*. The patient did well for a while, but finally complained of pain in the left kidney, which became large and tender. The pus showed in the urine. An incision was made, and many abscesses were found in the cortex of the kidney. These were evacuated with the finger, the wound was packed, and the patient made a slow but uneventful recovery.

Dr. A. E. Halstead, in the discussion, stated that the tumor which showed in the radiograph of Dr. Eisendrath's case probably was a diverticulum, although it might be an aneurism. Skiagraphing these diverticuli with bismuth was not so good as passing a soft rubber tube filled with shot, and then skiagraphing.

Dr. Eisendrath extirpated a kidney about five years ago for ascending pyelonephritis with multiple abscesses, and later doubted whether he did not make a mistake in doing so. Fortunately, the patient recovered.

Dr. A. H. Ferguson referred to a case he reported some years ago of multiple abscesses of the right kidney, where he excised some of the abscesses and opened others. The other kidney became involved two years later, but the patient refused operation and died from sepsis. In the kidney operated on no abscesses developed subsequently, adding strength to the practice of not extirpating such kidneys.

Dr. W. W. Harsha mentioned two cases of actinomycosis he had observed in the past year, saying that the tissue around the broken-down masses was very hard, almost gristly. This condition was so marked that he considered it a valuable diagnostic sign.

Dr. D. A. K. Steele favored instituting conservative treatment in multiple embolic abscesses. Nephrectomy, however, should be the rule in tubercular cases.

Dr. Eisendrath said he had failed to find any evidence of aneurism or tumor in his case, after repeated examinations, and he was unable to differentiate at present between aneurism, tumor, or diverticulum.

Brain Tumor.—Dr. John E. Owens reported an interesting and instructive case of cerebral tumor removed in two stages by the osteoplastic method, with subsequent wiring of the bone flap, and the introduction of a gold plate. The primary result was excellent.

Dr. Eisendrath mentioned the difficulties met with in performing these operations, one of them being hemorrhage from the scalp. In a case of Jacksonian epilepsy operated upon by him, the hemorrhage was so severe the patient was almost exsanguinated. He had observed a number of cases in which it was almost impossible to keep the bone flap in apposition with the remaining portions of the skull.

Dr. Ferguson had operated on a number of such cases, but in none of them had he any such favorable results as Dr. Owens had in his case. He succeeded merely in securing temporary relief from the headache. The hernia cerebri became enormous. He depended entirely on a sufficient number of hemostats and pressure to control hemorrhage from the scalp in these cases.

Dr. A. E. Halstead had found that hemorrhage could be controlled with artery forceps and pressure. A few years ago he operated on a case of brain tumor at the base of the skull for the purpose of relieving pressure symptoms. He made trephine opening and evacuated the ventricles. The intracranial pressure increased enormously, so much so that the brain tissue was forced out through the small opening, through which the fluid was withdrawn from the ventricles. By tapping the ventricles, the patient's condition was improved and the pressure was relieved.

Dr. D. A. K. Steele stated that while the ultimate outcome of Dr. Owens' case was still in doubt, the temporary relief and the prolongation of the patient's life were of value. Reference was made to an intracerebral sarcoma, about two inches in diameter, which he published about two years ago. The location of the tumor in the motor area was easy, and its removal was not difficult. While there was no difficulty in controlling the hemorrhage from the scalp, hemorrhage from the longitudinal sinus was severe. He packed in an abundance of iodoform gauze, and succeeded in controlling the hemorrhage. The patient was still alive after twelve years.

Dr. Owens, in closing, stated that hernia of the brain could be prevented by making the opening in the dura at the base of the flap when this was possible. This could not be done in his case because of the natural opening at the top made by the tumor.

Hydrocele in the Female.—Dr. A. E. Halstead and Dr. Chas. P. Clark reported jointly a case of hydrocele in the female.

Dr. L. L. McArthur presented a case with a history of calculi in the common duct and biliary passages. One hundred and forty stones were removed. The patient died on the third day after the operation from sepsis. On section of the liver, stones were found in all the biliary ducts. He showed a gross specimen of the liver. He also exhibited a skiagraph showing stones in the kidney.

Dr. Eisendrath exhibited a specimen which illustrated the mechanism of rotary dislocations of the atlas upon the axis. He also showed a boy, sixteen years of age, with syphilis hereditaria tarda. There was a

marked enlargement of the left tibia, greatly resembling periosteal sarcoma. Investigation revealed the probability of syphilis in the parents. He also exhibited an X-ray of the pelvis and both femora, in which the head of the left femur was entirely destroyed through the presence of a metastasis from a primary tumor of an undescended testis.

BOOK REVIEWS.

AN ELEMENTARY TREATISE ON THE LIGHT TREATMENT FOR NURSES. By JAMES H. SEQUEIRA, M.D., Lond., M.R.C.P.Lond., F.R.C.S.Eng., Physician in Charge of the Skin Department and Lecturer on Dermatology at the London Hospital. The Scientific Press, London.

THE therapeutic use of light depends so largely for its success upon the technic with which it is handled that it is extremely important for any nurse called upon to employ this agent to be familiar with the matter presented in this little book. A brief summary of the more general aspects of the question is followed by a careful description of the apparatus and its use which cannot fail to be of assistance.

PRACTICAL DIETETICS. By A. L. BENEDICT, A.M., M.D., Councillor American Gastro-enterological Association; Fellow American Academy of Medicine; Consultant in Digestive Diseases, City Hospital for Women, and Riverside Hospital, Buffalo. G. P. Engelhard & Co., Chicago.

THIS volume of some 400 pages deserves its title, for while not neglecting the chemical and physiological principles upon which the science of dietetics is based, it expounds them so simply and applies them so directly that the epithet "practical" is the one which occurs most readily in any comment upon it. How to supply the needs of the body for growth and repair, for heat and energy, in conditions of health and of various types of disease is discussed thoroughly and clearly, but without undue length, and with a certain pleasantness of style which, although not generally considered essential in a purely instructive work, is nevertheless apt to render that instruction more effective.

DIET IN HEALTH AND DISEASE. By JULIUS FRIEDENWALD, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and JOHN RUHRÄH, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Octavo volume of 689 pages. W. B. Saunders & Co., New York, Philadelphia and London.

THIS text-book of dietetics is sure to prove helpful because of its eminently practical character. Besides chapters on the chemistry and physiology of digestion and on foods and stimulants, special dietaries are given for each of the infectious diseases, for various forms of disease of the stomach and intestines and in general for the many types of organic diseases. Besides this there are chapters on such special subjects as army and navy rations, dietaries in public institutions such as prisons and hospitals and recipes and diet lists. In a word, there seems to be nothing that the ordinary practitioner of medicine is expected to know with regard to food that does not find a place in this manual. There is scarcely a page of the book that does not contain eminently suggestive material. There is very little of theory and evidently much that has been gleaned from practical experience. We foresee for the book a well-deserved popularity.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, etc. By leading members of the Medical Profession Throughout the World. Edited by A. O. J. KELLY, A.M., M.D. J. B. Lippincott Company, Philadelphia.

THE present number of the International Clinics begins with an excellent article by Prof. George Hayem, of the University of Paris, on the Excessive Use of Drugs in the Treatment of Chronic Diseases, with Reference to Medical Intoxications. Another excellent article from a French source is that on Indications for the Dechloridation Treatment, by Adolph Javal. As is well known now, certain French clinicians have succeeded by lessening the amount of chloride of sodium consumed by patients, in reducing cardiac edema and checking the development of certain kinds of ascitic effusions, besides moderating hyperchlorhydria and even favorably affecting some cases of exudate dermatitis. It is in cases of Bright's disease particularly that the indication for the reduction of the amount of common salt are to be found.

There is a suggestive article from Sir Dyce Duckworth on the Incidence of Gout in the United States of America and in new communities generally. The present volume is well up to previous issues in general interest of practical clinical import.

FIRST ANNUAL REPORT OF THE HENRY PHIPPS INSTITUTE FOR THE STUDY, TREATMENT AND PREVENTION OF TUBERCULOSIS. February 1, 1903, to February 1, 1904. Published by the Henry Phipps Institute, Philadelphia.

THIS first annual report is noticeable principally as containing the lectures delivered by distinguished authorities on tuberculosis at the Phipps Institute during the past year. Among these are Trudeau's article, The History of the Tuberculosis Work at Saranac Lake, N. Y., Professor Osler's address on the Home and Its Relation to the Tuberculosis Problem, Prof. G. Sims Woodhead's address on The Morbid Anatomy and Histology of Pulmonary Tuberculosis, Prof. Hermann M. Biggs on the Administrative Control of Tuberculosis and Prof. Maragliano on Specific Therapy of Tuberculosis and Vaccination against the disease.

Besides these, however, there is an excellent résumé of the work of the Phipps' Institute during the past year, of which especially the chapter on neurological work in connection with tuberculosis is interesting and suggestive.

BOOKS RECEIVED.

ONE HUNDRED YEARS OF PUBLISHING. 12mo, 29 pages. Illustrated. Wm. Wood & Co., New York.

THE HOUSEBOAT BOOK. By Dr. W. F. Waugh. 12mo, 209 pages. Illustrated. Clinic Publishing Co., Chicago.

HOW TO STUDY LITERATURE. By B. A. Heydrick. Third Edition. 12mo, 150 pages. Heinze, Noble & Eldredge, New York.

DICTIONARY OF NEW MEDICAL TERMS. By Dr. G. M. Gould. Quarto, 571 pages. P. Blakiston's Son & Co., Philadelphia.

BEING DONE GOOD. By Dr. E. B. Lent. Second edition. 8vo, 345 pages. Illustrated. Brooklyn Eagle Press, Brooklyn, N. Y.

CLINICAL HEMATOLOGY. By Dr. J. C. DaCosta, Jr. Second Edition. 8vo, 591 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

TEN LECTURES ON BIOCHEMISTRY OF MUSCLE AND NERVE. By Dr. W. D. Halliburton. 8vo, 160 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.